A DISSERTATION ON

STUDY ON ROLE OF SOCIO-DEMOGRAPHIC FACTORS AFFECTING TEENAGE PREGNANCY AND ITS FETO-MATERNAL OUTCOMES

Dissertation Submitted to the

THE TAMILNADU Dr.M.G.R.MEDICAL UNIVERSITY
CHENNAI

In partial fulfillment

Of the requirement for the degree of

M.S.OBSTETRICS &GYNAECOLOGY
Branch -II

INSTITUTE OF SOCIAL OBSTETRICS & GOVT KASTURBA GANDHI HOSPITAL FOR WOMEN AND CHILDREN
MADRAS MEDICAL COLLEGE CHENNAI

APRIL 2016

DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation entitled **" STUDY ON ROLE OF SOCIO-DEMOGRAPHIC FACTORS AFFECTING TEENAGE PREGNANCY AND ITS FETO-MATERNAL OUTCOMES"** is a bonafide and genuine research work carried out by me under the guidance of Prof. Dr. S.Vijaya, Professor HOD & Director, Incharge, Institute of Social Obstetrics &Govt. Kasturba Gandhi Hospital, Madras Medical College, Chennai.

Dr.N.Anusuya
Post Graduate Student,
Department of Obstetrics and Gynaecology
Govt Kasturba Gandhi hospital
Chennai.

Place :

Date :

CERTIFICATE BY THE GUIDE

This is to certify that this dissertation titled **"STUDY ON ROLE OF SOCIO-DEMOGRAPHIC FACTORS AFFECTING TEENAGE PREGNANCY AND ITS FETO-MATERNAL OUTCOMES"** is a bonafide research work done by Dr.N.Anusuya, Postgraduate MS student in the Department of Obstetrics & Gynaecology at Govt Kasturba Gandhi Hospital, Madras Medical College, Chennai in partial fulfillment of the requirement for the degree of M.S in Obstetrics & Gynaecology.

Prof. Dr.S.Vijaya, MD.,D.G.O
Professor and HOD & Director Incharge
Institute of Social Obsteterics & Govt.
Kasturba Gandhi Hospital,
Chennai.

Place :
Date :

ENDORSEMENT BY THE HOD, PRINCIPAL/

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This is to certify that this dissertation titled **"STUDY ON ROLE OF SOCIO-DEMOGRAPHIC FACTORS AFFECTING TEENAGE PREGNANCY AND ITS FETO-MATERNAL OUTCOMES"** is a bonafide research work done by Dr.N.Anusuya,Postgraduate MS student in the Department of Obstetrics and Gynaecology, Govt Kasturba Gandhi Hospital, Madras Medical College Chennai, under the guidance of Dr. S.Vijaya, MD,D.G.O Professor, Department of Obtetrics and Gynaecology, Institute of Social Obstetrics,Govt Kasturba Gandhi Hospital, Madras Medical College, Chennai..

Prof. Dr. R.Vimala, MD
Dean,
Madras Medical College
Chennai.

Prof. Dr. S. Vijaya MD.,D.G.O,
Director Incharge,
Govt Kasturba Gandhi Hospital
MMC Chennai

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI-3

EC Reg No.ECR/270/Inst./TN/2013
Telephone No. 044 25305301
Fax : 044 25363970

CERTIFICATE OF APPROVAL

To
Dr.N.Anusuya
Postgraduate M.S.(Obstetrics and Gynaecology)
Madras Medical College
Chennai 600 003

Dear Dr.N.Anusuya,

The Institutional Ethics Committee has considered your request and approved your study titled **"Study on Role of Socio-Demographic factors affecting teenage pregnancy and its feto-maternal outcomes" No.26022015.**

The following members of Ethics Committee were present in the meeting held on 03.02.2015 conducted at Madras Medical College, Chennai-3.

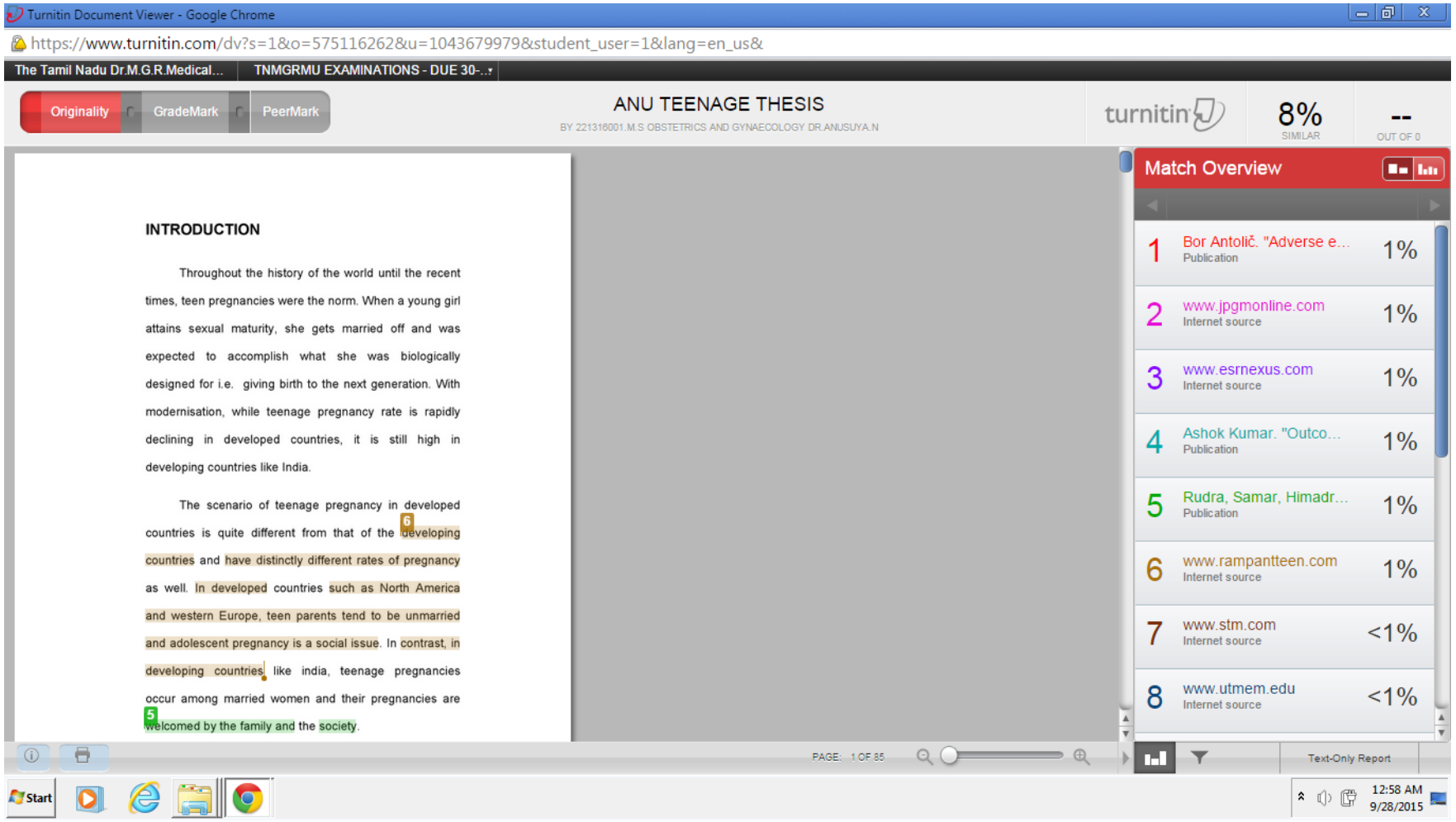
1. Dr.C.Rajendran, M.D.,	: Chairperson
2. Dr.R.Vimala, M.D., Dean, MMC, Ch-3	: Deputy Chairperson
3. Dr.B.Kalaiselvi, M.D., Vice-Principal, MMC, Ch-3	: Member Secretary
4. Dr.R.Nandini, M.D., Inst.of Pharmacology, MMC	: Member
5. Dr.P.Ragumani, M.S., Professor, Inst.of Surgery, MMC	: Member
6. Dr.Md.Ali, M.D., D.M., Prof. & HOD of Medl.G.E., MMC	: Member
7. Dr.K.Ramadevi, Director, Inst.of Biochemistry, MMC	: Member
8. Dr.Saraswathy, M.D., Director, Pathology, MMC, Ch-3	: Member
9. Dr.S.G.Sivachidambaram, M.D.,Director i/c Institute of Internal Medicine, MMC, Ch-3	: Member
10. Thiru S.Rameshkumar	: Lay Person
11. Thiru S.Govindasamy, B.A., B.L.,	: Lawyer
12. Tmt.Arnold Saulina, M.A., MSW.,	: Social Scientist

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary, Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003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INTRODUCTION
Throughout the history of the world until the recent times, teen pregnancies were the norm. When a young girl attains sexual maturity, she gets married off and was expected to accomplish what she was biologically designed for i.e. giving birth to the next generation. With modernisation, while teenage pregnancy rate is rapidly declining in developed countries, it is still high in developing countries like India.
The scenario of teenage pregnancy in developed countries is quite different from that of the developing countries and have distinctly different rates of pregnancy as well. In developed countries such as North America and western Europe, teen parents tend to be unmarried and adolescent pregnancy is a social issue. In contrast, in developing countries like india, teenage pregnancies occur among married women and their pregnancies are welcomed by the family and the society.
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My gratitude to my Assistant Professors, Statistician **Mr.Padmanaban,** Research Officer, ICMR, KMCH, my colleagues and Hospital Staff and patients for enabling me to complete the study.

STUDY ON THE ROLE OF SOCIO-DEMOGRAPHIC FACTORS AFFECTING TEENAGE PREGNANCY AND ITS FETO-MATERNAL OUTCOMES.

ABSTRACT

INTRODUCTION:

Pregnancy during 11 to 19 yrsperiod is called teenage pregnancy. It is one the most important public health problem all over the world with varying prevalence.Itis associated with high maternal ,fetaland neonatal mortality andmorbidity.The complications are anemia,pretermdelivery ,hydramnios ,malposition ,preeclampsia, eclampsia ,PPROM,multiple pregnancy.

MATERIALS AND METHODS:

A prospective study of teenage pregnancy was carried out at Kasturba gandhi Hospital, Chennai during the period july 2014 - july 2015.

Pregnant women admitted in labour ward were taken for study. 200 cases of teenage women upto 19 yrs were compared with 200 cases of 20 - 29 yr old pregnant women. Cases were selected randomly and randomisation was attained by selecting same number of controls as number of index cases randomly who delivered on that day. A structured proforma was used to collect information. The cases were followed till they got discharged.

Information regarding age, educational status, occupation, socio-economicstatus,number of siblings in the family, marital status, age at marriage, health awareness, knowledge about pregnancy and delivery, antenatal visits were obtained from history.

Basic checkup like Height and Weight of the patient,BMI, Haemoglobin and B.P checkup were done. Complications during antenatal period, delivery and postpartum were observed.. Details regarding mode of delivery and birth weight of the baby were noted. Baby details noted and babies admitted in neonatal ward were followed up till they were discharged. Patients and their babies were followed up at O.P. one month later and any untoward events in the intervening period noted down.

RESULTS:

The incidence of teenage pregnancywas9.6%.2/3 of pregnant teenagers were 19 yr olds. Mean Hb in study group was 9.58%.Incidence of severe PIH was 3.66 %. All complications occurring postpartum such as local sepsis, mastitis and UTI were increased in teenage group. There was not much difference in the mode of delivery between the 2 groups. About 38.50% of babies born to mothers in the study group were low birth weight (<2.5kg). About 1/3 of babies born to mothers in the study group required NICU admission. Leading causes of admission in NICU were respiratory distress and LBW / preterm babies.

CONCLUSION:

Teenage pregnancy is associated with significantly higher risk of ofanemia,PIH,pretermdeliveries,neonatal mortality and morbidity. . A combined multidisciplinary approach involving educationists, health and social workers, obstetrician and gynaecologists is required to improve the adolescent's reproductive health.

KEY WORDS:

Teenage pregnancy,complications,Maternal and neonatal mortality.

CONTENTS

INTRODUCTION

INTRODUCTION

Throughout the history of the world until the recent times, teen pregnancies were the norm. When a young girl attains sexual maturity, she gets married off and was expected to accomplish what she was biologically designed for i.e.Giving birth to the next generation. With modernization, while teenage pregnancy rate is rapidly declining in developed countries, it is still high in developing countries like India.

The scenario of teenage pregnancy in developed countries is quite different from that of the developing countries and have distinctly different rates of pregnancy as well. In developed countries such as North America and Western Europe, teen parents tend to be unmarried and adolescent pregnancy is a social issue. In contrast, in developing countries like India, teenage pregnancies occur among married women and their pregnancies are welcomed by the family and the society.

Complications of pregnancy as well as childbirth are the leading cause of mortality among women in the teenage group in India. In India, teenage pregnancy constitutes 8-14% of total pregnancies.

INDICATORS OF TEENAGE PREGNANCY

1. Adolescent childbearing

The proportion (percentage) of mothers (women having a child) before the age of 20 years among all women having had children.

2. Teenage pregnancy incidence

The proportion (percentage) of births to women less than 20 years among all deliveries.

3. Teenage Birth rate

The number of births to women less than 20 years of age per 1000 women aged less than 20 years. Frequently, this indicator is restricted to 15-19 years old subgroup as this subgroup is representation of the whole teenage birth rate. This is the most accurate, robust and reliable of the three indicators.

Teenage Pregnancy rates in various other Asian countries 2000^10

South Korea	2
China	5
Iran	33
India	45
Pakistan	50
Mongolia	54
Cambodia	49.3
Nepal	117
Qatar	69
Japan	4
Malaysia	18.9
Kazakhstan	45
Thailand	49
UAE	51
Afghanistan	111
Bangladesh	117

Factors Contributing to Teenage Pregnancy

1. Early marriage
2. Social customs
3. Low literacy rate
4. Poverty
5. Lack of sex education
6. Non usage of contraceptives

1. Early Marriage

Even though the legislation is against early marriage, Indian women marry at a younger age. The minimum age of marriage for girls was amended by the Government of India as 18 years in 1978.Although postponing the age at marriage to 21 years of age and above, the new born rate would significantly come down and thus population explosion can be prevented in our country to a certain extent. Early marriage, indirectly is related to various factors like illiteracy, poverty, cultural background and trends of the society. The mean age of marriage in India is 17.1 years because there is high fertility rate in adolescents, and thereby an increased trend of teenage pregnancy.

2. Social customs

In majority of the states in India, girls get married once they attain menarche and get pregnant soon after marriage. These practices are much more prevalent especially among the lower socioeconomic strata.

3. Literacy

In almost all the countries, less educated are more likely to have a child during adolescence. Boys are given good education as they have to find a job and have the responsibility toearn for their families, whereas girls are only going to take care of the house and the family. So, they are not sent to school at all, or stopped from school soon after menarche, so that she learns to take care of her home before she gets married. In urban areas, marriage is postponedat least till the girl completes her education and gets a job. By that time she is in her early twenties or mid-twenties which is the right age for marriage and pregnancy. So, this is how teenage pregnancy rate is inversely proportional to the literacy rate of women in that particular area.

4. Poverty

In low socioeconomic strata, as the male is the sole breadwinner of the family, he has the responsibility of taking care of his children's needs financially. In turn, he tends to get his girl child married off at an early age in order to lessen his burden to some extent. Poverty leads to illiteracy and vice-versa illiteracy leads to poverty and both finallylead to adolescent pregnancy.

Unmarried pregnancy

Unmarried pregnancy among teens has always been seen as a problem of the western world, but it's hard to realize that it exists as much in our society. Premarital sex has become a definite component of the society in the recent days. It mostly gets unnotified due to the social stigma attached to it. With live in relationship, pre-marital sex and free sex on therampant, it is

emerging as a new social problem. With problems of premarital sex and pregnancy comes other issues like HIV and other STDs. Such pregnancy mostly ends in an abortion or that girl is married off to the guy responsible for it. School drop outs are noted most frequently. Mental trauma and depression are the worst adverse effects. She is also forced to have an unwanted baby. She has to pay dearly for her ignorance.

Causes for unmarried pregnancies

1. Lack of sex education and lack of contraception awareness.
2. Early dating behavior
3. High risk behavior–Drugs, smoking, alcohol, substance abuse.
4. Peer pressure
5. Negative influence of the social media.
6. Lack of a social support group
7. Unhealthy home environment.
8. Mental stress and depression
9. Exposure to domestic or sexual abuse

The most important factor leading to pregnancy among unmarried teenagers is the lack of awareness of safe sex and choices of contraception. Teenage children should be educated universally about the sexual abstinence till marriage, usage of contraceptives if at all they were to have sex and about emergency contraception if they had any unprotected sex. Education should be given about the risks of STD's and HIV & ways to prevent it.

COMPLICATIONS OF TEENAGE PREGNANCY

Maternal and perinatal complications are increased in teenage pregnancy definitely for the following reasons:

1. Physical immaturity
2. Lack of knowledge in health care
3. Poor diet
4. Inadequate antenatal care
5. High levels of emotional distress
6. Smoking and alcohol usage

Impact of pregnancy on the mother

A teenage mother is both physically as well as mentally immature for the pregnancy, labour and child rearing. Emotional stress is frequentlyencountered by an unplanned pregnancy. Becauseof the gynecological immaturity, she develops all sorts of complications during pregnancy and labour like anemia, pregnancy induced hypertension, nutritional deficiencies, preterm labour, cephalopelvic disproportion, intrauterine death, prolonged labour and malpresentation. Following delivery, she has to take care of a demanding baby day and night which often leads to tiredness and frustration. Moreover, financial difficulties also add on to her stress. To add to that, she is likely to have successive pregnancies which leads to a miserable life.

Impact of teenage pregnancy on the baby

Babies born to teenage mothers are at increased risk of low birth weight, congenital anomalies, early onset sepsis, respiratory distress &hyperbilirubinemia. There is increased rate of neonatal mortality in such babies.

Children of teen mothers often suffer from poverty, suffer health problems, suffer neglect and abuse and have academic and behavioral problems. Girls born to teenage mothers often become teenage mothers themselves and this problem gets carried on for generations.

MATERNAL COMPLICATIONS

1. Anemia

Anemia is an important risk factor for death following post-partum hemorrhage. Along with high growth rate around the time of puberty, the beginning of menstruation and poor nutrition, pregnancy can deplete one's body iron reserves. Severe anemia leads to various complications like premature labour, cardiac failure, inability to tolerate even normal amount of blood loss at delivery and sepsis.

2. Pregnancy induced hypertension

There is increased incidence of PIH in this group becauseprimi-gravidae proportion is high in this group. Complications of PIH are more in this group

because of inadequate antenatal care and ignorance about imminent symptoms of eclampsia.

3. Nutritional deficiencies

During pregnancy, nutritional needs of a teenager are increased to support the growing baby and for her own body which is in the growing phase. So she needs more nutrients during her pregnancy than an adult pregnant woman. But lack of awareness of this fact combined with inadequate antenatal care leads to many nutritional deficiencies. Also, the low status of women in the Indian society results in women getting less than their fair share of household food and healthcare. When a girl getspregnant she is advised to eat less to have a smaller baby in hope of having an easy delivery. A malnourished teenager has increased incidence of abortion, poor placental function, malformation, growth impairment and functional changes.

4. Sexually transmitted diseases

The incidence of STD in adolescent age group who are sexually active is greater whether they are married or unmarried. This is because of poor personal hygiene and lack of awareness .about STD’s. They are at increased risk for developing cancer cervix later because of early age at first intercourse and long duration of sexual activity.

5. Cephalopelvic disproportion

Earlier view was that there is an increased frequency of contracted pelvis during adolescent pregnancy. But studies show that prepubertal pelvis may be contracted from obstetric point of view but the growth spurt is adequate to prepare the pelvis for parturition. So high amount of CPD and dystocia is observed only in girls less than 15 years.

6. Labour and delivery problems

There is increased risk of prolonged labour, increased incidence of operative vaginal deliveries, increased incidence of malpresentation and increased incidence of perineal injuries.

7. Puerperal problems

Puerperal infections are more common in teenagers because of predisposing factors such as anemia and poor personal hygiene. Also, they are more likely to suffer from puerperal blues due to psychological immaturity.

FETAL COMPLICATIONS

1. Low birth weight

There is a marked association between young age of the mother and low birth weight in all countries. Low birth weight is directly related to maternal weight gain during pregnancy and is much commoner in undernourished women. Even if there is adequate weight gain and increased fat stores during

pregnancy in adolescent women, their babies have a lower fetal growth rate as a result of competition for nutrients between the maternal body and the growing baby. So their babies tend to have low birth weight.

2. Preterm baby

There is a greater frequency of premature births among teenagers. This could be attributed to immaturity of uterine muscle fibres, deficient prenatal care, medical complications of pregnancy, mental and physical immaturity.

3. Perinatal mortality

Perinatal loss is mainly due to prematurity and low birth weight and other complications like IUGR, early sepsis, respiratory distress and congenital anomalies. Increased perinatal mortality in teenage pregnancy is due to deficient antenatal care and late referral to hospital.

4. Congenital anomalies

The adolescent is at a slightly greater risk of having a baby with congenital anomaly due to deficiency of essential nutrients during the formation of organ systems. In teenage pregnancies, anencephaly, spina bifida and meningocele are common among the congenital anomalies.

MANAGEMENT OPTIONS

1. Prevention and pre-pregnancy management
2. Prenatal care.

3. Care during labour and delivery

4. Postnatal care.

1. Prevention and pre-pregnancy management

Primary prevention is of utmost importance by way of sex education and creating an awareness in the society about the various risks of teenage pregnancy through educationists, social workers and media.

Secondary prevention is by offering the various choices of contraceptives to sexually active teenagers and motivating them to use contraceptives.

Tertiary prevention is by providing teenagers with early, appropriate and adequate antenatal care and referral to a tertiary care centre when necessary.

2. Prenatal care

Teenage gravidae receive less prenatal care than older women because of seeking prenatal care late in pregnancy being unaware that they are pregnant and also due to fear of pregnancy. They also have infrequent antenatal visits. Compliance is very poor among teenagers. Some teenagers do not receive prenatal care at all. Provision and utilisation of health care services are beneficial both for the mother and the baby. Adequate prenatal care prevents complications in the mother as well as the baby.

3. Care during labour& delivery

There is no specific program for the intrapartum management of teenage mothers. Most important is continuous active support by the doctor and family members to help her face the problems in a better way.

4. Postnatal care

Infant feeding problems, infant growth and infant safety factors should be taken care of. Effective contraceptive method should be implemented. Overall, the clinicians have an important role in providing guidance for pregnant teenagers and their families.

REVIEW OF LITERATURE

REVIEW OF LITERATURE

Historical review

The youngest mother in world's history is Lima Medina who delivered by caesarean section in Peru, in the year 1939. Her age at the time of delivery was 5 years 8 months.

Influence of age on complications

Various studies show that teenagers encounter more maternal and fetal complications but the complications are more among the 15 - 17 age group. Bhalerao A.R. et al (1990) compared the outcome of pregnancy in the 15 -17 age group with that of girls in the 17- 19 age group[4]. In his study, he found out that 42.9% in 15 - 17 age group delivered prematurely, whereas only 14% of the girls in 17 - 19 age group had preterm labour. Only 28.6% girls in the age group of 15 - 17 years had full-term normal delivery as compared to 60.8% girls in the age group of 17- 19 years. 71.5% of mothers in the age group of 15 - 17 years were low birth weight as compared to 44.1% babies of mothers in the age group of 17 -19 years. These findings signify that the outcome of pregnancy becomes worst in girls below the age of 17 years. According to Ballard and Gold, complications are more in women less than 15 years and the adolescent above the age of 15 who escapes toxemia, anemia and premature labour seems to enjoy a relatively benign obstetric course[3].

Incidence of teenage pregnancy

Incidence of teenage pregnancy varies widely among various studies. Study made by T.Thekkekara and J.Vennu (2006), shows a very high incidence of 52% which might have been due to illiteracy and social customs in the area where the study was conducted. [26] In India, teenage pregnancy constitute 8 - 14% of teenage pregnancies. [20]

INCIDENCE OF TEENAGE PREGNANCY	
Bhalerao (1990) [4]	6.3%
Pratinidhi (1990) [19]	10%
Kumar Ashok (2006) [13]	4.1.%
T.Thekkekara and J.Veenu (2006) [26]	52%

Except for study by T.Thekkekara and J.Veenu, studies show that teenage pregnancy incidence has come down over years.

Age at marriage

Bhalerao A.R. et al observed that only 24% of the teenage women were married after 18 years which is the legal age of marriage in our country. The mean age of marriage was 16.71 years in A.K.Sharma's[1] study and 16.5 years in T.Thekkekara's study.[26]

The main cause of teenage pregnancy is the girls marrying at an earlier age.

Maternal complications

Universally all studies show increased rate of complications in the teenage mother because of her physical immaturity. The complications that are definitely increased in a teenage mother are anemia, pregnancy induced hypertension and preterm labour

The incidence of CPD was 1.5% according to Bhalerao (1990) and 2.6% as reported by Philips and Sivakamasundari[20] (1978).

Kumar Ashok (2006) reported that frequencies of PIH, eclampsia and preterm labour were significantly increased in teenage pregnancy. At the same time, there was no difference in the incidence of gestational diabetes, oligohydramnios, polyhydramnios, and APH between cases and controls.[13]

Fetal complications

STUDY	ANEMIA	PIH	PRETERM LABOUR
BHALERAO (1990)[4] – 10.0%	25.5%	10%	16%
PRATINIDHI ET AL (1990)[19] – 11.4%	30%	11.4%	26%
A.K. SHARMA (2001)[1] – 7%	68.6%	7%	18%
ISRAEL AND WONDERZ[11] (1963) – 7.8%	26%	7.8%	14.7%
GHOSE AND GHOSH[9] (1976) – 8%	24%	8%	14.9%

All studies show statistically significant difference in the rate of low birth weight infants, still births and perinatal mortality rate between the teenage group and the control group.

Pratinidhi (1990) commented that perinatal mortality rate was 7 - 16 times greater when associated risk factor except anemia were present.[19]The neonatal mortality rate was 2.5 - 18 times greater when associated risk factors except anemia and edema were present. Late neonatal mortality was 2.2 times higher among infants with mothers under 18 years old. Kumar Ashok (2006)

found that neonatal mortality was found to be almost 3 times more common in babies born to teenage mothers compared to the controls and the difference was statistically significant[13]. The most common cause of neonatal mortality in both cases and controls was prematurity followed by perinatal asphyxia.

All authors reported an increased incidence of low birth weight among babies born to teenagers. According to Bhalerao's (1990) study, 44.1% of the babies were low birth weight, 50.4% of teenage mothers gave birth to low birth weight babies according to Pratinidhi[19] (1990) and 87.2% of teenage mothers had low birth weight babies in Kumar Ashok's[13] study.

Kumar Ashok (2006) showed increased incidence of other neonatal complications such as perinatal asphyxia, Jaundice and respiratory distress syndrome. [13]

Incidence of meconium aspiration syndrome, congenital anomalies and sepsis were similar in both the groups.

M.K. Malviya (2003) recorded anthropometric measurement such as birth weight, crown heel length, head circumference, chest circumference and midarm circumference within 24 hours in all newborns and were significantly reduced in children born to teenagers.

The limitation of these studies is that all the studies are hospital based and therefore may not be a true reflection of the situation in the community especially in a country like India where home deliveries are still very common and home deliveries go unreported.

AIMS AND OBJECTIVES

AIM OF THE STUDY

1. To study the role of socio-demographic factors affecting teenage pregnancy.
2. To study the maternal outcomes in teenage mothers during pregnancy, labour and puerperium.
3. To study the fetal outcomes in teenage pregnancy.

Objectives

1. To find out the strategies for prevention of teenage pregnancies.

MATERIALS

AND METHODS

MATERIALS AND METHODS

A prospective study of teenage pregnancy was carried out at Kasturba Gandhi Hospital, Chennai during the period July 2014 - July 2015.

Pregnant women admitted in labour ward were taken for study. 200 cases of teenage women up to 19 years were compared with 200 cases of 20 - 29 years old pregnant women. Cases were selected randomly and randomisation was attained by selecting same number of controls as number of index cases randomly who delivered on that day. A structured proforma was used to collect information. The cases were followed till they got discharged.

Information regarding age, educational status, occupation, socio-economic status, number of siblings in the family, marital status, age at marriage, health awareness, knowledge about pregnancy and delivery, antenatal visits were obtained from history.

Basic checkup like Height and Weight of the patient,BMI, Haemoglobin and B.P checkup were done. Complications during antenatal period, delivery and postpartum were observed. Details regarding mode of delivery and birth weight of the baby were noted. Baby details noted and babies admitted in neonatal ward were followed up till they were discharged. Patients and their babies were followed up at O.P. one month later and any untoward events in the intervening period noted down.

INCLUSION CRITERIA		
	Study Group	13 - 19 years
	Control Group	20 - 29 years

2) As most of the teenage pregnant women were only primigravida, only primigravida were included in both the study and control group. This is done mainly to eliminate the influence of parity on maternal complication and birth weight of the newborn.

3) Only primi-gravidae with singleton pregnancies without any medical disorders.

Exclusion criteria

1. Teenage multigravida
2. Twin gestation
3. Associated medical disorders like cardiovascular disorders
4. Hypertensive disorders
5. Respiratory disorders
6. Endocrinologic disorders
7. Previous history and investigations suggestive of medical disorders

RESULTS AND ANALYSIS

RESULTS AND ANALYSIS

TABLE - 1

AGE DISTRIBUTION IN TEENAGE PREGNANCY

AGE	NUMBER	PERCENTAGE
15	1	0.64%
16	1	0.36%
17	3	1.31%
18	62	31.02%
19	133	66.67%
TOTAL	**200**	

AGE DISTRIBUTION IN THE CONTROL GROUP

AGE GROUP	NUMBER	PERCENTAGE
20 - 22	107	53.64%
23 - 25	65	32.31%
26 - 29	28	14.05%
TOTAL	**200**	**100%**

About two-third of pregnant teenagers were 19 years olds which is acceptable considering the legal age of marriage for girls to be 18 years. Among the control group more than half of the population belonged to 20 - 22 years.

CHART – 1

AGE DISTRIBUTION IN TEENAGE PREGNANCY

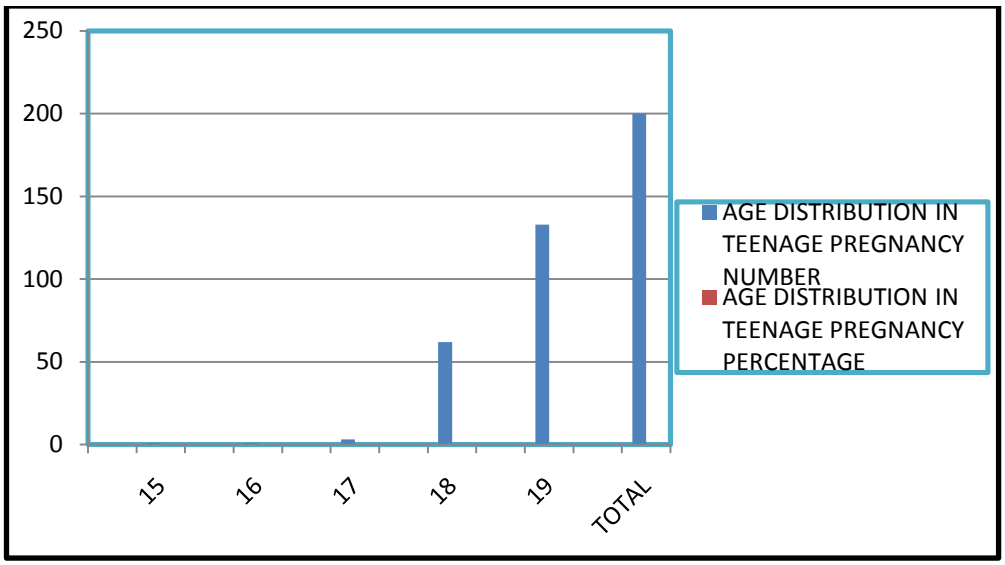

TABLE – 2

MEAN AGE AT MARRIAGE

WOMEN	AGE (YEARS)
Teenage pregnant Women	17.04 Years
Non- teenage pregnant Women	21.12 Years

The difference in their mean age at marriage between the two groups is almost 4 years which means that another four years of education which can increase their standard of living to a certain extent.

CHART - 2

MEAN AGE AT MARRIAGE

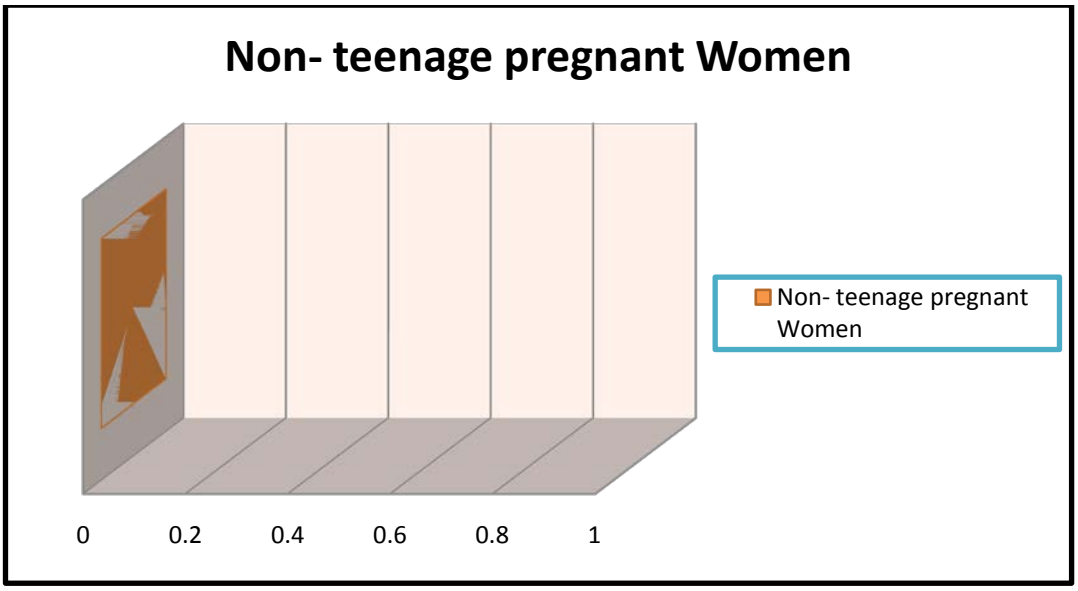

TABLE - 3

MARITAL STATUS

GROUP	TEENAGE		NON - TEENAGE	
	No.	**%**	**No.**	**%**
Married	197	98.66%	100	100%
Unmarried	3	1.33%	0	0
Total	**200**	**100%**	**200**	**100%**

All the women in control group were married, whereas 3 women were unmarried in the teenage group

CHART - 3

MARITAL STATUS

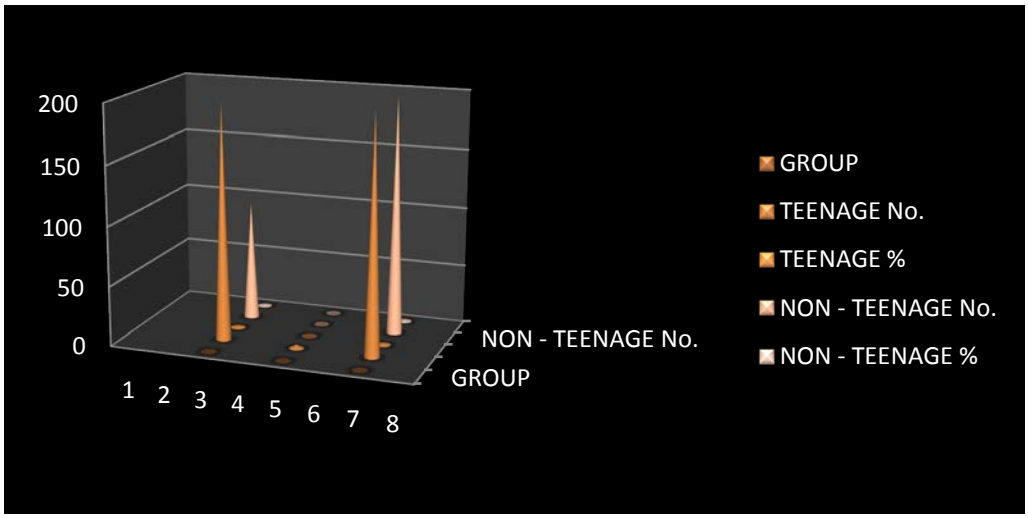

TABLE - 4

EDUCATIONAL STATUS

	TEENAGE		**NON – TEENAGE**	
EDUCATION	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
Graduate & Post graduate	0	0	7	3.36%
XI - XII	2	1.01%	27	13.4%
VI – X	51	25.58%	110	55%
I – V	112	55.91%	30	14.96%
Illiterate	34	17.5%	26	13.2%
Total	**200**	**100%**	**200**	**100%**

Majority of the women in teenage group have had education up to primary level while majority of the women in non-teenage group were educated up to secondary level. None of the women in teenage group have attended college while 7 women in non-teenage group had college education.

CHART - 4

EDUCATIONAL STATUS

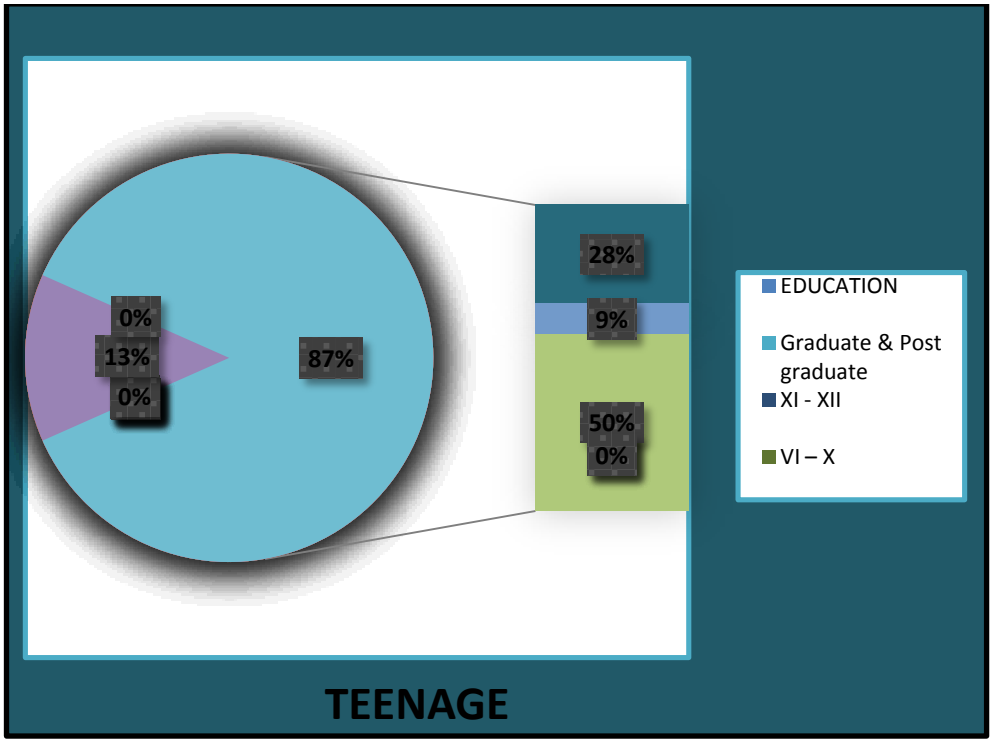

TABLE - 5

OCCUPATIONAL STATUS

	TEENAGE		NON – TEENAGE	
OCCUPATION	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
Working	6	3%	29	9.47%
Non-working	194	97.%	181	90.53%
Total	**200**	**100%**	**200**	**100%**

Majority of the women both in study and control group were not working and they were dependent solely on their husbands, for their living. Out of the minor working population in the control group, most of them had good jobs and they were financially independent.

CHART - 5

OCCUPATIONAL STATUS

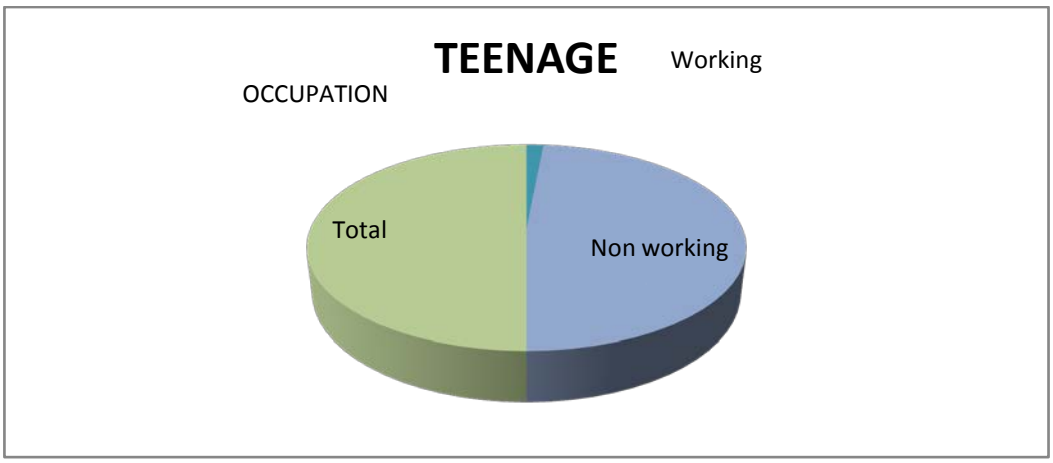

TABLE - 6

KNOWLEDGE ABOUT PREGNANCY AND DELIVERY

KNOWLEDGE	TEENAGE GROUP		NON – TEENAGE GROUP	
	No.	**%**	**No.**	**%**
Good	34	16.98%	74	36.96%
Poor	166	83.02%	126	63.04%
Total	**200**	**100%**	**200**	**100%**

p value - 0.0000001

Most of the women in the teenage group did not know about the basics of pregnancy as well as delivery. About one-third of women in the control group had good knowledge about pregnancy and what constitutes high risk in pregnancy, need for antenatal checkups, nutritional requirement in pregnancy, basics of delivery, taking care of the baby, importance of breast feeding, immunization and contraception.

CHART – 6

KNOWLEDGE ABOUT PREGNANCY AND DELIVERY

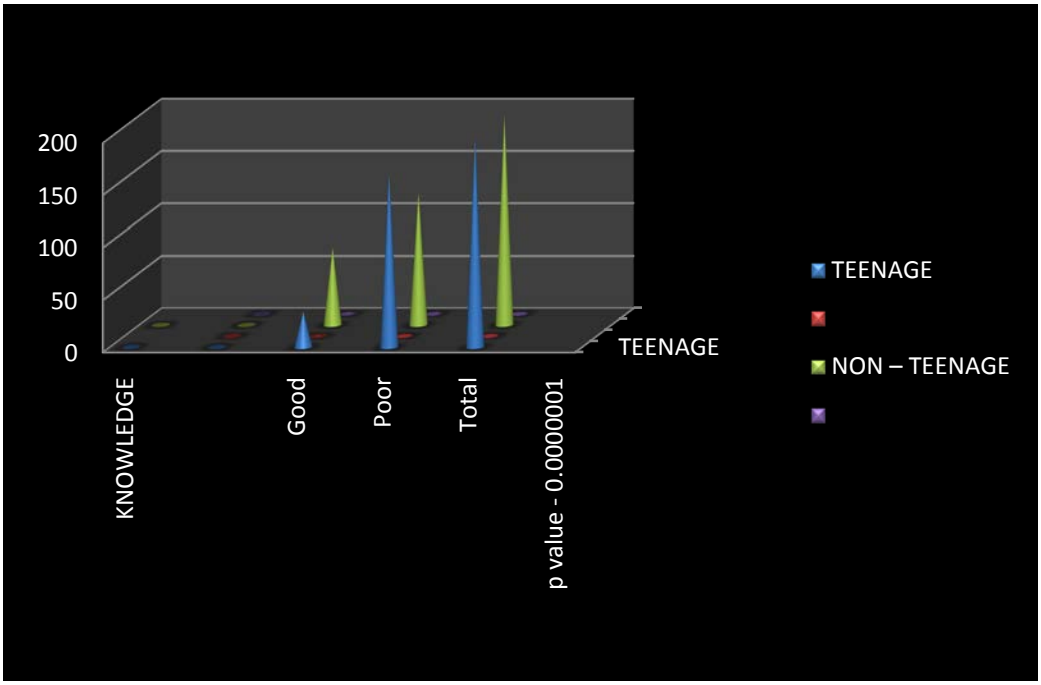

TABLE – 7

BOOKING

	TEENAGE		NON – TEENAGE	
BOOKING	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
Booked	172	86%	191	95.63%
Unbooked	28	14%	9	4.37%
Total	**200**	**100%**	**200**	**100%**

P = 0.00004256

14% of women in the teenage group were unbooked. Most of them had their first visit to hospital at the time of delivery only. 4.37% of the women in the non-teenage group were unbooked.

CHART – 7

BOOKING

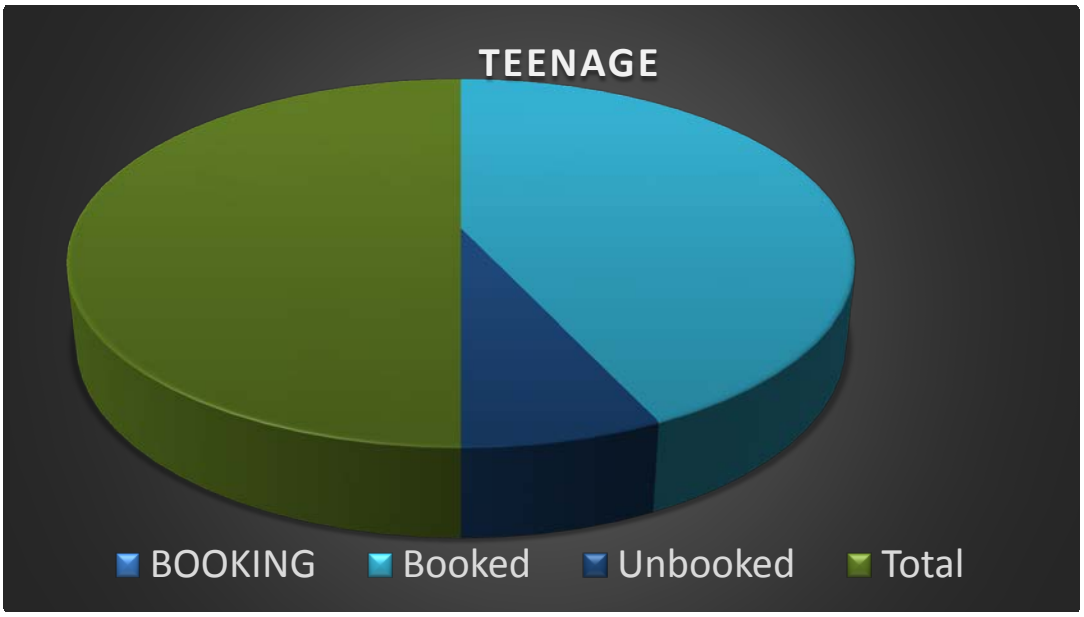

TABLE – 8

IMMUNISATION

IMMUNISATION	TEENAGE		NON - TEENAGE	
	GROUP		GROUP	
STATUS	No.	%	No.	%
Immunised	199	99.56%	200	100%
Not immunised	1	0.43%	0	0
Total	**200**	**100%**	**200**	**100%**

Almost all patients in both the groups have received TT from health care workers even though they did not have regular checkups. Only one woman in teenage group was not immunised because being an unmarried girl she had kept her pregnancy concealed from her parents fearing consequences and had headed to hospital only after the start of labour pains.

CHART – 8

IMMUNISATION

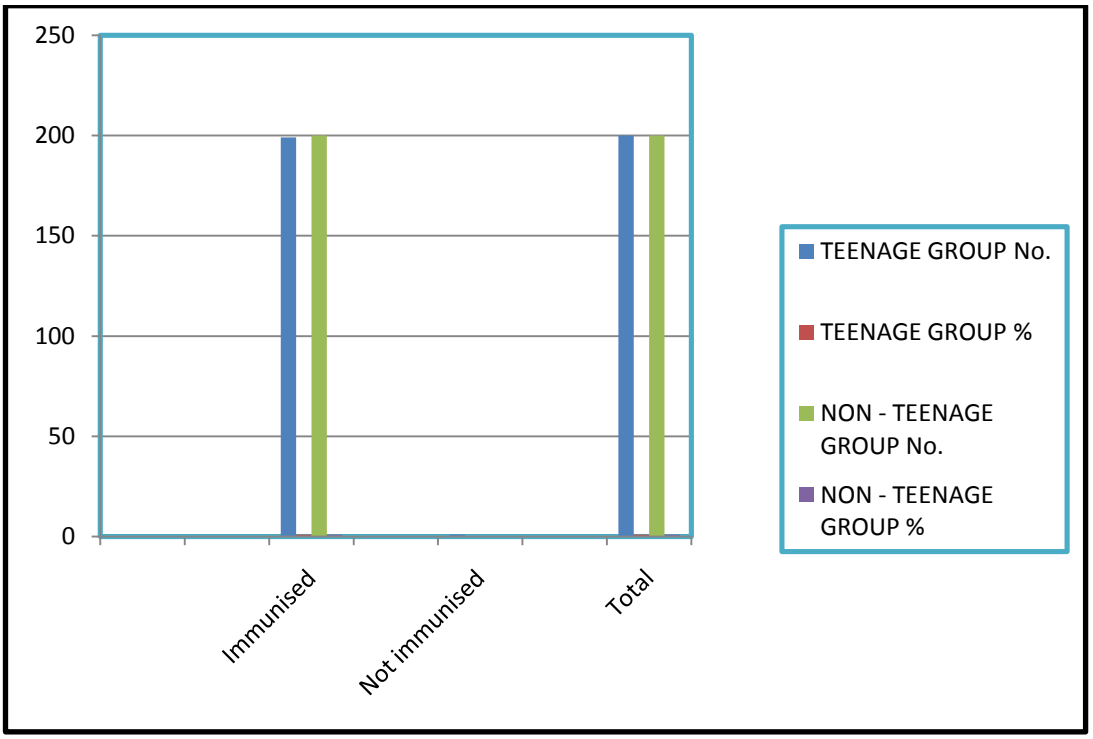

TABLE - 9

FIRST ANTENATAL VISIT

I ANC	TEENAGE GROUP		NON – TEENAGE GROUP	
	No.	**%**	**No.**	**%**
I Trimester	24	12%	62	30.9%
II Trimester	150	75%	131	65.7%
III Trimester	26	13%	7	3.4%
Total	**200**	**100%**	**200**	**100%**

Only 12% of the teenage mothers booked in the first trimester because most of them were unaware that they were pregnant during the initial period. 30.9% of non-teenage mothers had booked during the first trimester.

After booking, further antenatal checkups were also irregular among teenagers due to financial difficulties and inadequate knowledge.

CHART - 9

FIRST ANTENATAL VISIT

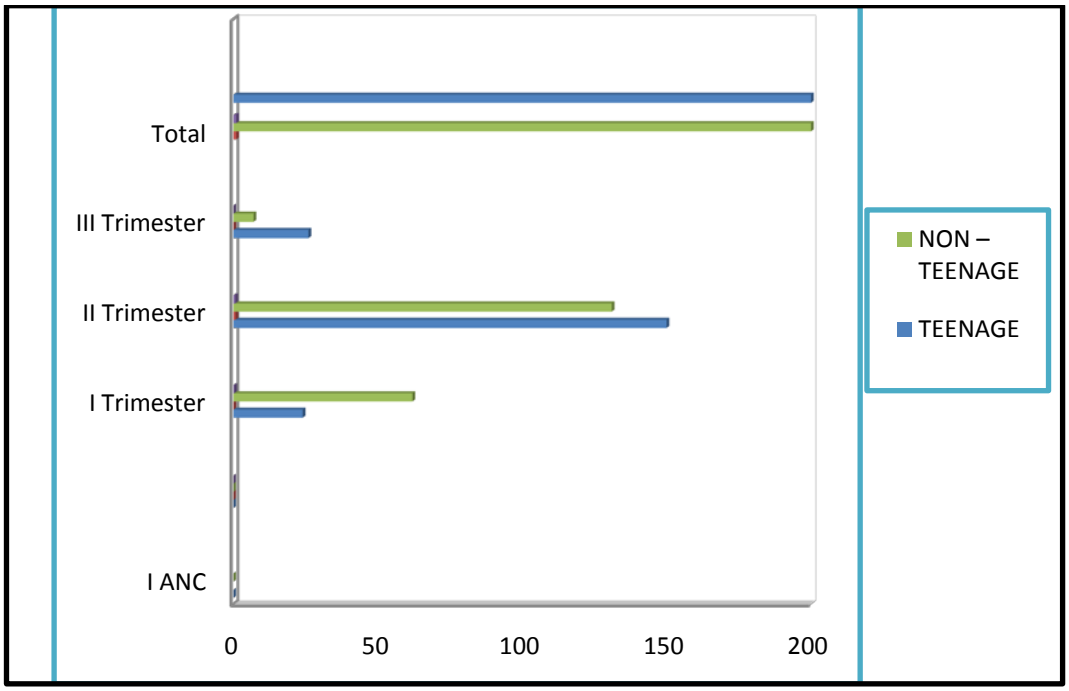

TABLE – 10: HEIGHT OF THE PATIENT

	TEENAGE		NON – TEENAGE	
HEIGHT	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
≤145 cm	16	8.01%	8	4%
146 - 150 cm	115	57.50%	115	57.5%
151 - 155 cm	39	19.50%	61	30.5%
156 cm & above	30	14.99%	16	8%
Total	**200**	**100%**	**200**	**100%**

Majority of the patients in both the groups had height of 146 - 150 cm.8% of teenage pregnant women were short statured i.e.,<145 cm and 4% of women in non-teenage group were short stature.

CHART – 10: HEIGHT OF THE PATIENT

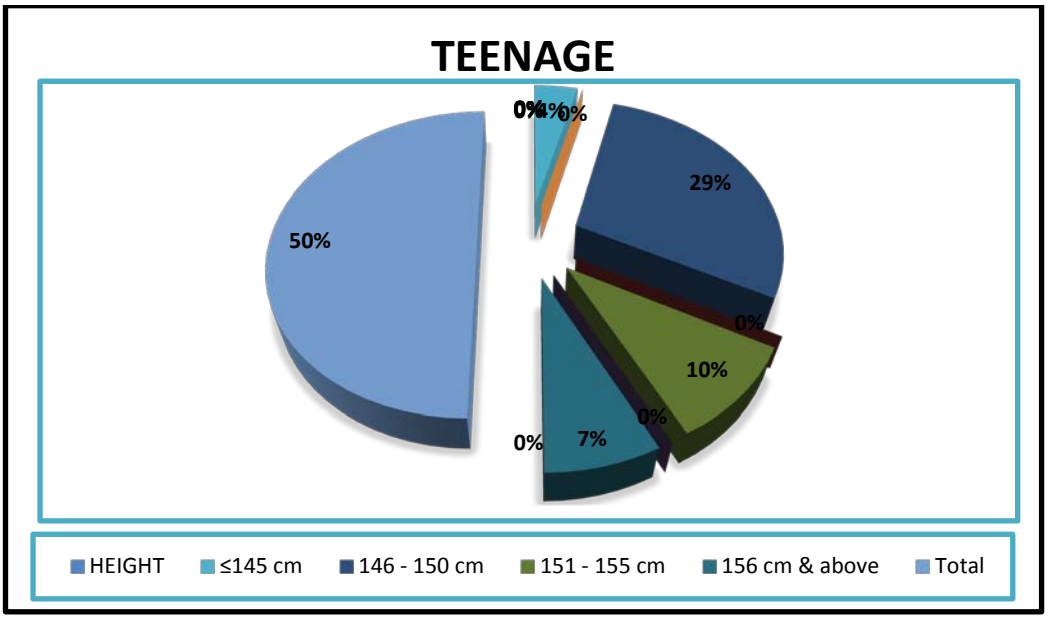

TABLE – 11

WEIGHT OF THE PATIENT

	WEIGHT	TEENAGE GROUP		NON – TEENAGE GROUP	
		No.	%	No.	%
≤ 45 kg		11	5.50%	1	0.36%
46	- 50kg	37	18.50%	40	20.02%
51	- 55 kg	52	26%	83	41.60%
56	- 60 kg	86	43%	65	32.39%
> 60 kg		14	7%	11	5.63%
	Total	**200**	**100%**	**200**	**100%**

There was not much significant difference in weight between the teenagegroup and the non-teenage group.

CHART - 11

WEIGHT OF THE PATIENT

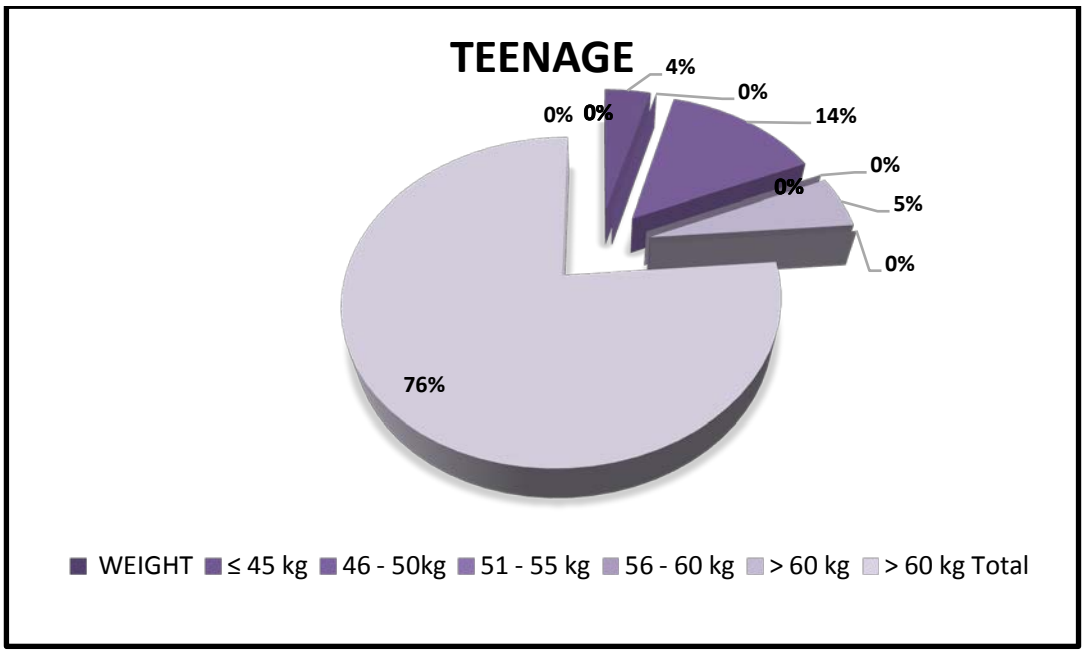

TABLE - 12

ANEMIA IN PREGNANCY

Hb	**Anemia**	**TEENAGE GROUP**		**NON-TEENAGE GROUP**	
		No.	**%**	**No.**	**%**
11g%	No anemia	11	5.50%	21	10.50%
10.1 - 10.9 g%	Mild	48	24%	93	46.50%
7.1 - 10 g%	Moderate	131	65.50%	85	42.50%
4.1 - 7 g%	Severe	9	4.50%	1	0.50%
≤ 4g%	Very severe	1	0.50%	0	0
Total		**200**	**100%**	**200**	**100%**

Mean Hb in Teenage group-9.58g%

Mean Hb in Non teenage group -10.11g%

p value - 0.000002

Only 5.50% of teenage women had Hblevel above 11 gm% whereas 10.50% of non-teenage women had haemoglobin above 11 gm%. Majority of the women in teenage group had moderate anemia which often required blood transfusion and parenteral iron whereas majority of women in non-teenage group belonged to the mild anemia category which could be corrected by oral haematinics. Severe anemia was more common in teenage group than in non-teenage group.

CHART - 12

ANEMIA IN PREGNANCY

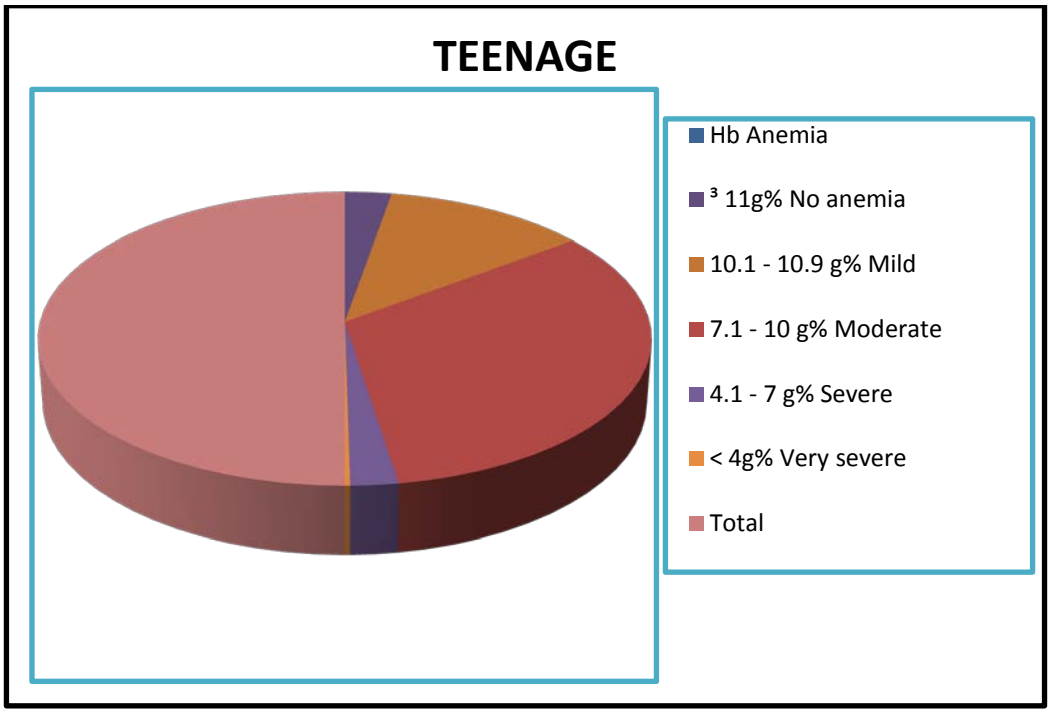

TABLE – 13

PREGNANCY INDUCED HYPERTENSION

	TEENAGE		**NON – TEENAGE**	
PIH	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
Mild PIH	8	4%	9	4.66%
Severe PIH	8	3.66%	2	1%
Eclampsia	3	1.66%	1	0.33%
Total	**19**	**9.33%**	**12**	**6%**

P = 0.06467

Incidence of PIH was greater in teenage group than the control group probably because of poor antenatal care. Incidence of severe PIH and eclampsia were more in teenage group because they did not seek medical treatment early and also because they were ignorant and they did not have regular AN checkups. Severe PIH and eclampsia could have been prevented in such cases.

CHART - 13

PREGNANCY INDUCED HYPERTENSION

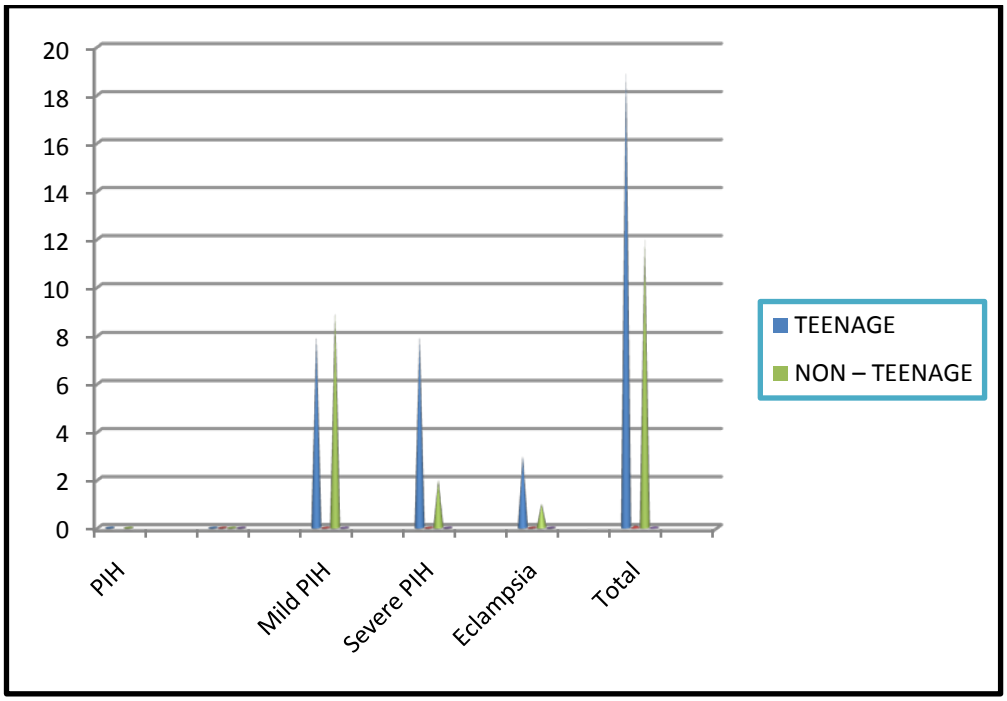

TABLE - 14

OTHER COMPLICATIONS / RISK FACTORS

DURINGANTENATAL PERIOD

	TEENAGE		NON - TEENAGE	
COMPLICATIONS	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
Malpresentation	5	1.66%	5	1.66%
Malposition	1	0.33%	0	0
Abruptio placenta	1	0.33%	0	0
Prolonged pregnancy	9	3.00%	12	4%
IUD	1	0.33%	0	0
GDM	1	0.33%	1	0.33%
Heart disease	1	0.33%	0	0
Oligohydramnios	4	1.33%	4	1.33%
IUGR	3	1.00%	1	0.33%
Residual Polio	0	0	1	0.33%
Asthma	1	0.33%	0	0
Hepatitis	0	0	1	0.33%
Leptospirosis	1	0.33%	0	0
Burns	1	0.33%	0	0

Among other complications, during antenatal period, one patient in the teenage group had intrauterine death. Three patients had intrauterine growth retardation in the teenage group and one patient had the same in the non-teenage group.

CHART - 14

OTHER COMPLICATIONS / RISK FACTORS DURINGANTENATAL PERIOD

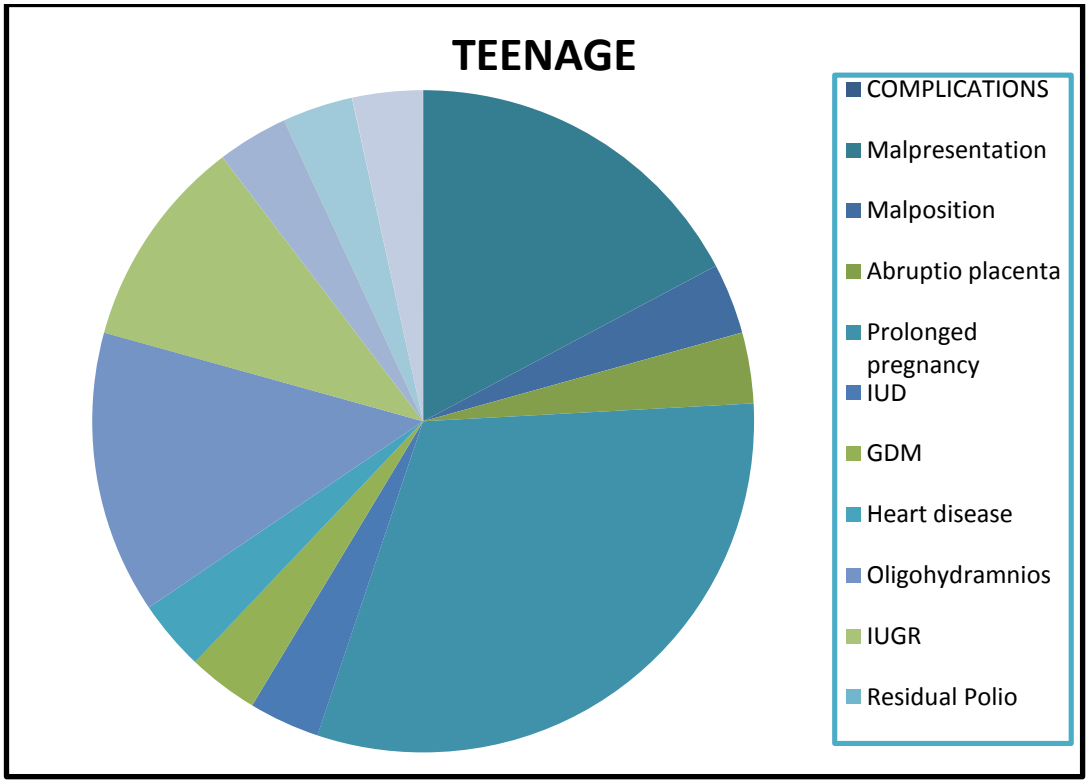

TABLE - 15

COMPLICATION DURING LABOUR

	TEENAGE		NON – TEENAGE	
COMPLICATIONS	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
Cephalopelvic	21	7.00%	17	5.66%
disproportion				
PROM / MRO	18	6%	15	5.00%
Cervical dystocia	1	0.33%	1	0.33%
Cord prolapse	1	0.33%	0	0
Prolonged labour	4	1.33%	1	0.33%
Precipitate labour	1	0.33%	0	0
Retained placenta	2	1%	1	0.33%
Complete perineal tear	1	0.33%	0	0
Postpartum haemorrhage	1	0.33%	3	1%

Prolonged labour was more common in teenage group than in non-teenage group. There was a case of precipitate labour in the teenage group. There was not much difference in the number of cephalopelvic disproportion between the 2 groups though it has been postulated that the pelvic bone is not well developed in a teenager to deliver a baby normally.

CHART - 15

COMPLICATION DURING LABOUR

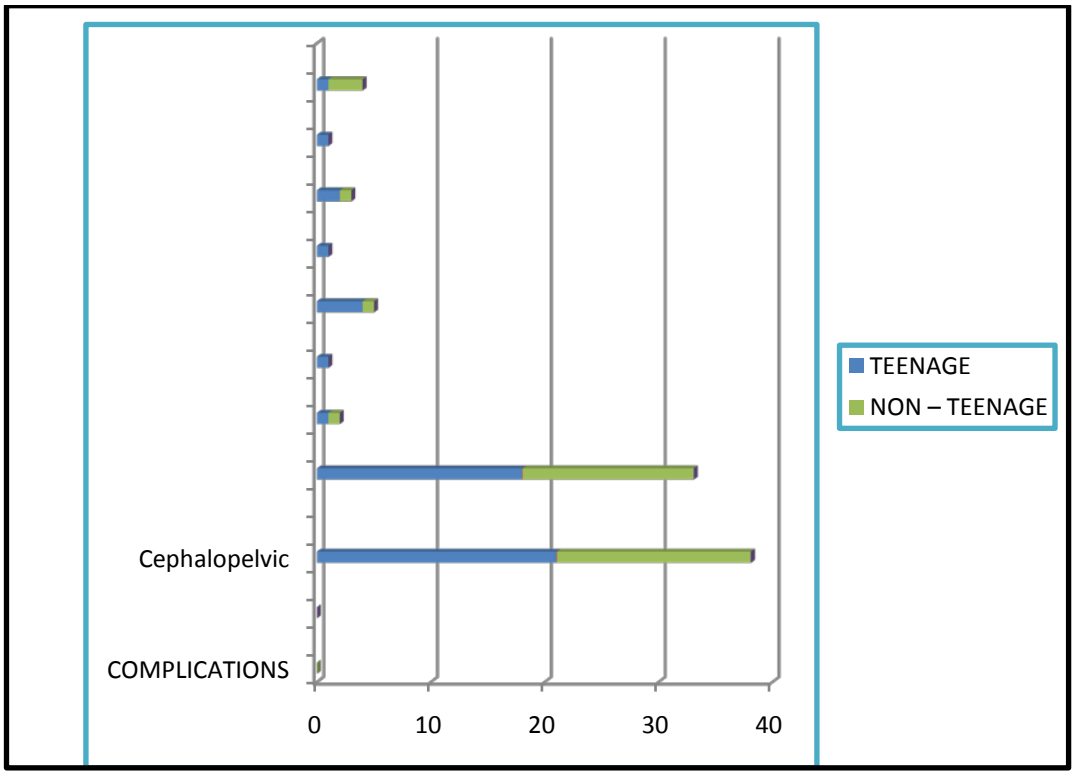

TABLE – 16

POSTPARTUM COMPLICATIONS

COMPLICATIONS	TEENAGE GROUP		NON – TEENAGE GROUP	
	No.	%	No.	%
Postoperative fever	1	0.33%	1	0.50%
Local sepsis	4	2.67%	1	1%
Septicemia	1	0.33%	0	0
UTI	1	0.33%	1	0.50%
Mastitis	2	1.33%	1	0.50%
Puerperal Psychosis	1	0.33%	0	0

All thepostpartum complications were more in theteenage group than in the non-teenage group.

CHART - 16

POSTPARTUM COMPLICATIONS

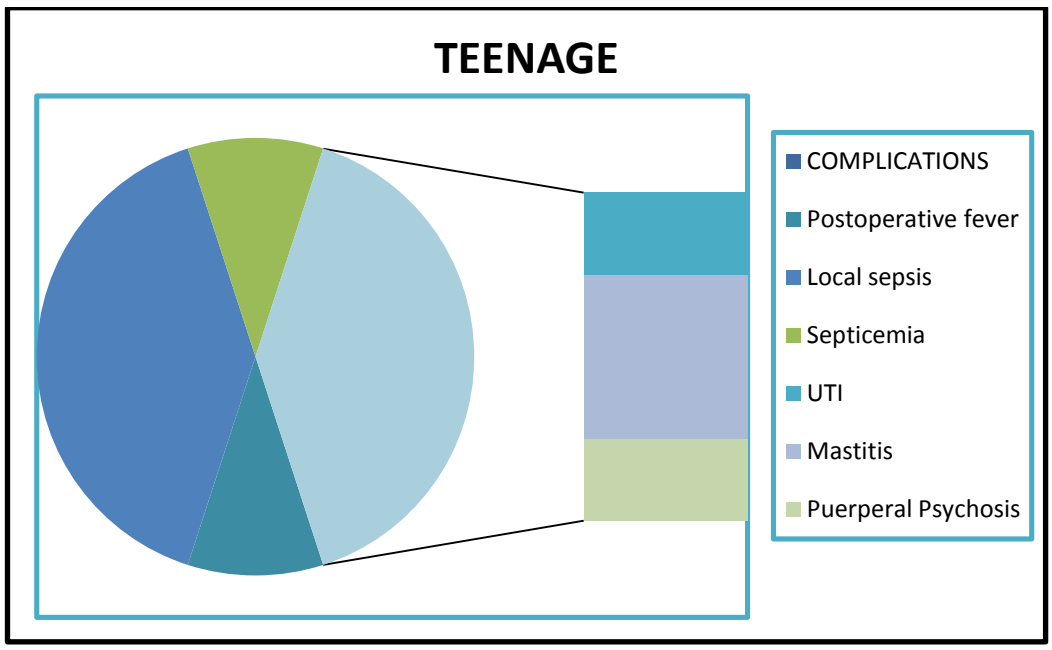

TABLE – 17

MODE OF DELIVERY

	TEENAGE		**NON – TEENAGE**	
MODE OF DELIVERY	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
Labournaturale	117	58.50%	114	57%
LSCS	71	35.50%	76	38%
Assisted breech	2	1%	1	0.50%
LMC forceps	5	2.50%	3	1.50%
Outlet forceps	4	2%	6	3%
Spontaneous expulsion of	1	0.50%	0	0
deadborn				

There was not much significant difference in the mode of deliverybetween the two groups.

CHART – 17

MODE OF DELIVERY

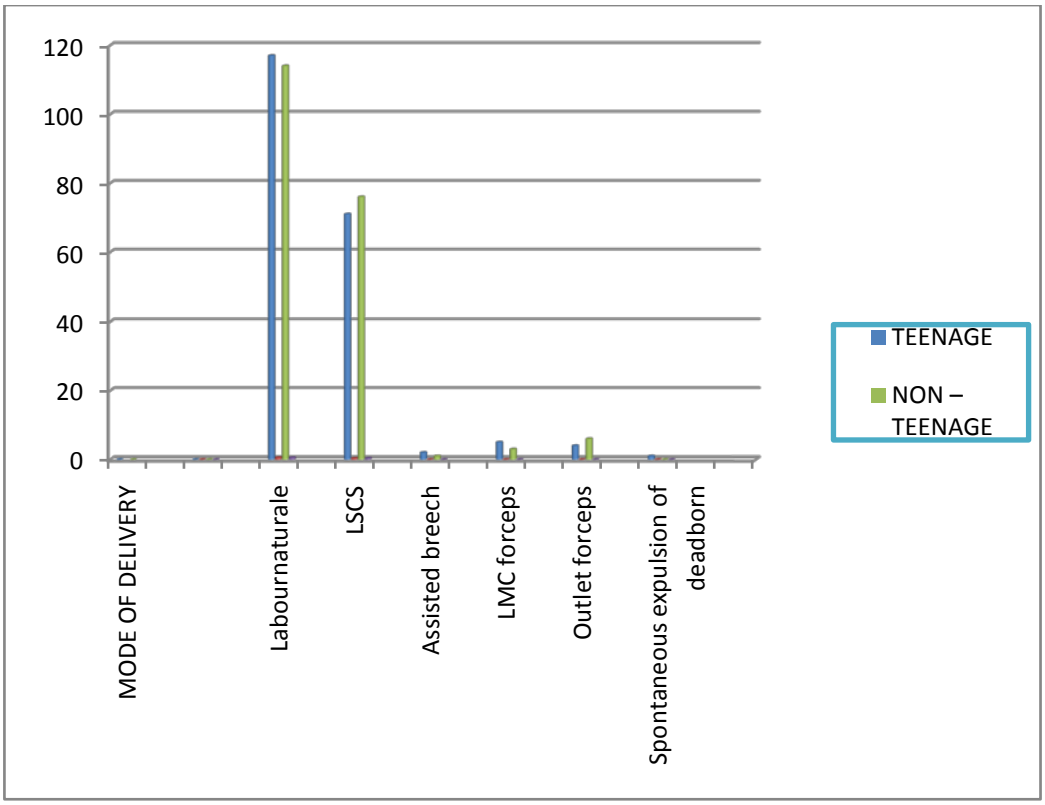

TABLE – 18

BIRTH WEIGHT OF THE BABY

	TEENAGE		**NON – TEENAGE**	
BIRTH WEIGHT	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
≤ 2.5 kg	77	38.50 %	51	25.50 %
2.6 - 3 kg	85	42.50%	116	58%
3.1 - 3.5 kg	35	17.50%	29	14.50%
> 3.5 kg	3	1.50%	4	2%
Total	**200**	**100%**	**200**	**100%**

P = 0.001061

38.50% of the babies born to teenage mothers weighed less than 2.5Kg while 25.50% of babies born to mothers in non-teenage group weighed less than 2.5Kg.

CHART – 18

BIRTH WEIGHT OF THE BABY

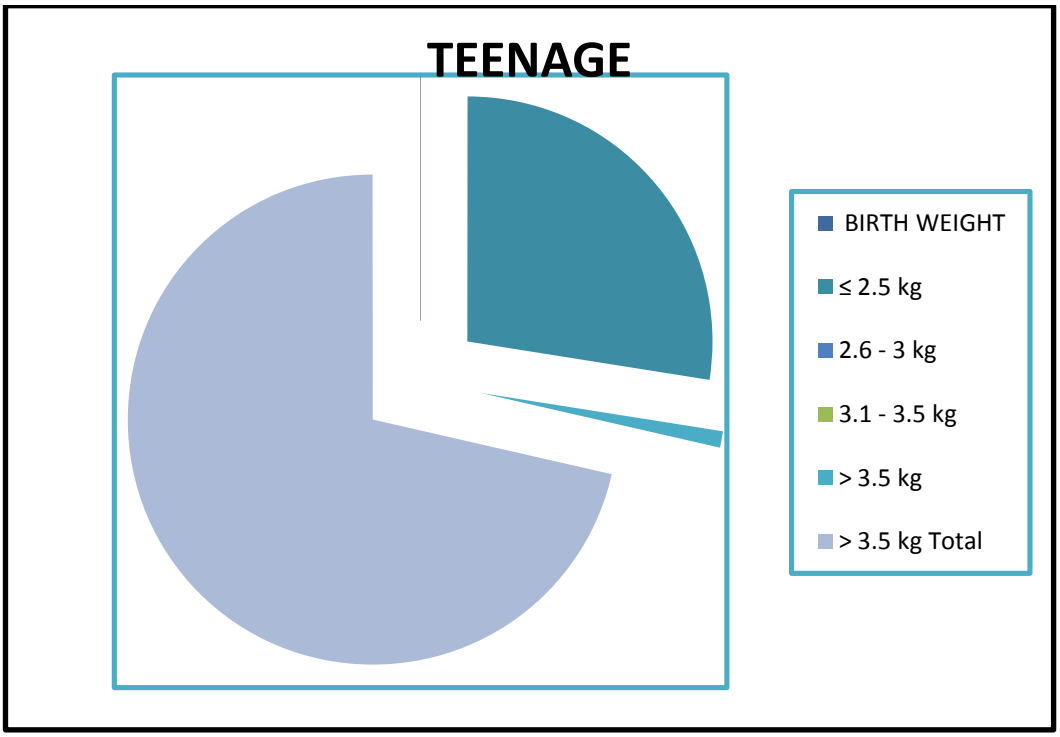

TABLE – 19

ADMISSION IN NEONATAL INTENSIVE CARE UNIT

	TEENAGE		NON – TEENAGE	
NICU ADMISSION	**GROUP**		**GROUP**	
	No.	**%**	**No.**	**%**
Admitted	69	34.50%	42	21%
Not admitted	131	65.50%	158	79%
Total	**200**	**100%**	**200**	**100%**

p = 0.00009396

More babies born to teenage mothers required admission in Neonatal intensive care unit than those that were born to non- teenage mothers.

CHART – 19

ADMISSION IN NEONATAL INTENSIVE CARE UNIT

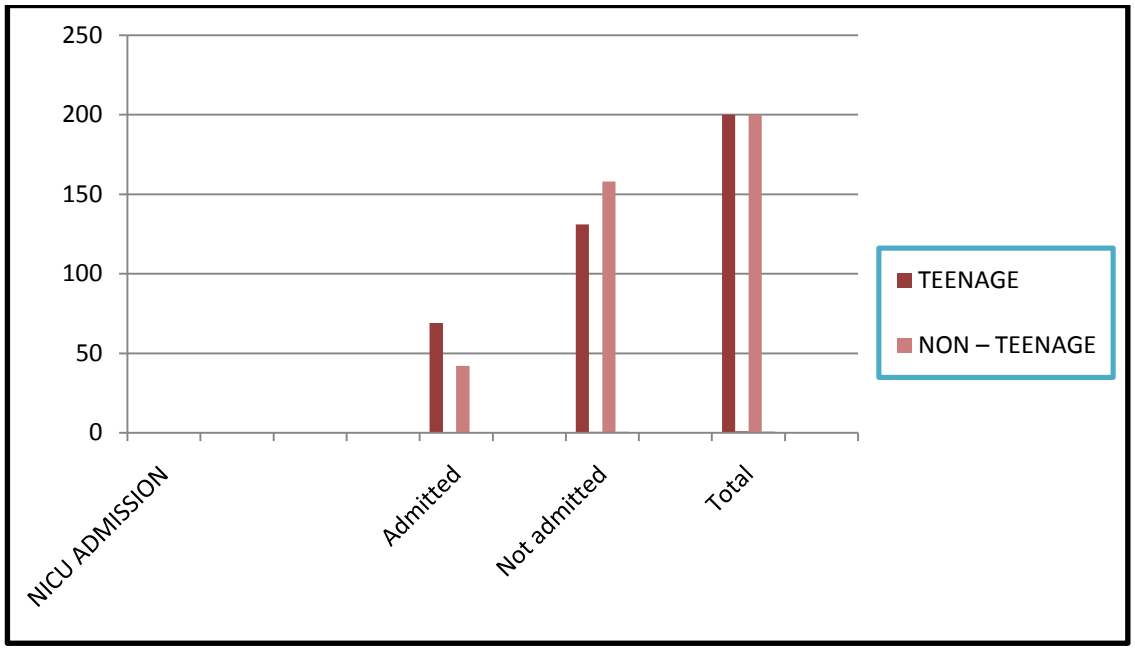

TABLE – 20

NEONATAL COMPLICATIONS CAUSING ADMISSION

COMPLICATIONS	TEENAGE GROUP		NON - TEENAGE GROUP	
	No.	**%**	**No.**	**%**
Prematurity	8	4%	5	2.50%
Low birth weight	20	10%	15	7.50%
Respiratory distress	33	16.50%	14	7%
IUGR	1	0.50%	1	0.50%
Sepsis	3	1.50%	3	1.50%
Neonatal jaundice	3	1.50%	1	0.50%
LGA	0	0	1	0.50%
Birth asphyxia	4	2%	4	2%
Congenital anomaly	1	0.50%	0	0
Milk aspiration	1	0.50%	0	0
pneumonitis				

The two main reasons favouring admission in NICU were respiratory distress and prematurity / low birth weight. Both the complications were higher in babies born to teenage mothers when compared to the babies born to non-teenage mothers.

CHART – 20

NEONATAL COMPLICATIONS CAUSING ADMISSION

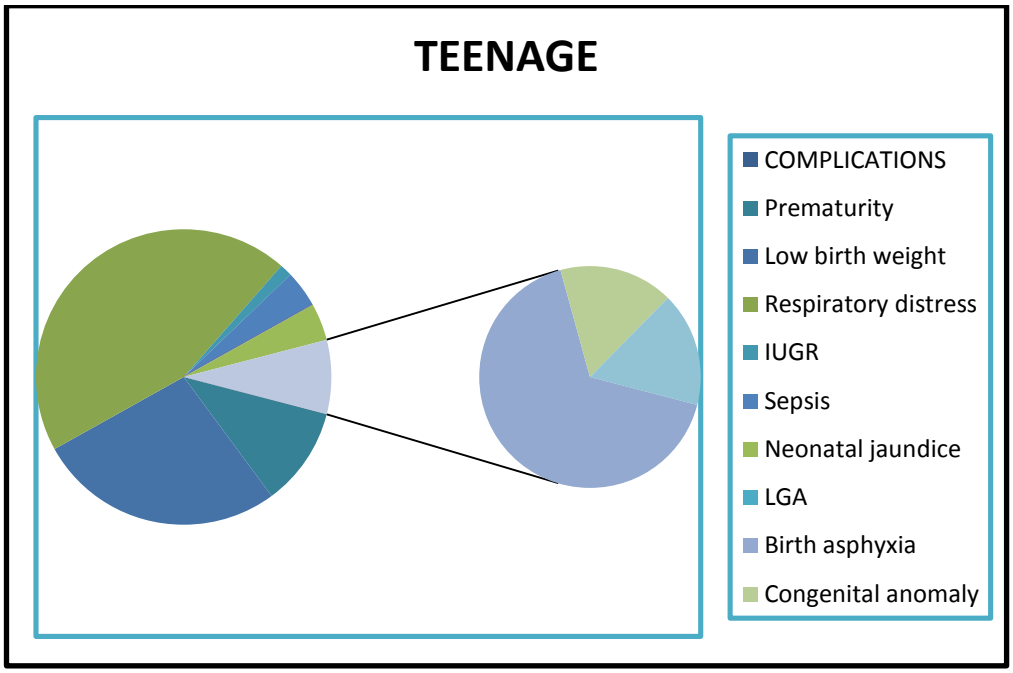

TABLE – 21

PERINATAL MORTALITY

PERINATAL MORTALITY	TEENAGE GROUP		NON - TEENAGE GROUP	
	No.	**%**	**No.**	**%**
Expired	20	6.97%	4	1.98%
Baby discharged	180	93.03%	196	98.02%
Total	**200**	**100%**	**200**	**100%**
p = 0.001090				

Perinatal loss was more in the teenage group than in the non-teenage group. On analysing the cause for perinatal loss, the main reason was prematurity which was more common among teenage mothers.

DISCUSSION

DISCUSSION

The present study on teenage pregnancy was undertaken with a view to understand the factors contributing to teenage pregnancy and to study the complications during antenatal, intrapartum and postpartum period and to study the neonatal outcomes of teenage pregnancy and the above results were compared with the study group.

AGE OF THE PATIENTS

In the study, no patient was less than 15 years and only 2.31% belong to the 15 - 17 years category, 31.02% were 18 yearsold and 66.67% were 19 years old. These results show a declining trend in the extremely young teenage group compared to previous studies such as study by Bhalerao[4] et al showed that 7% of teenage pregnancies belonged to 15 - 17 years age group and in a study by Kumar Ashok[13] showed that about 33% of teenage pregnancies were from 15-17 years age group. This improvement in probably due to better awareness about the risks of teenage pregnancy in today's generation and also due to improvement in the literacy rate at present.

AGE AT MARRIAGE

The mean age at marriage among the teenage women in the present study was 17.04years. The mean age at marriage of teenage women inT.Thekkekara's[26] study was 16.5 years&A.K.Sharma's study[1] was 16.71 years.

MARITAL STATUS

In the present study 1.33% were unmarried in the study group whereas there was no unmarried pregnancy in the control group. In Bhalerao's[4] study 3% of the study group were unmarried and in Kumar Ashok's [13] study, all the teenagers in the study group were married. The main reasons for unmarried pregnancy are lack of sex education and illiteracy.

LITERACY

Literacy is the most important direct and indirect factor contributing to the outcome of teenage pregnancy. The educational standard is more in the control group than the study group and the education seems to be the main reason for delaying marriage.

Even in this 21st century, many girls have never attended school and do not know to read and write. When the education status of the present study was compared with previous studies, we find that the status of women haven't changed over the years.

	PRESENT STUDY		**A.K.SHARMA[1] (2001)**	
EDUCATION	**STUDY GROUP**	**CONTROL GROUP**	**STUDY GROUP**	**CONTROL GROUP**
Illiterates	17.5%	13.2%	12.9%	10%
Up to class V	55.91%	14.96%	18.6%	5.7%
Up to class X	25.58%	55%	65.7%	55.7%
Class X and above	1.01%	13.4%	2.9%	28.6%

ANTENATAL CARE

The incidence of complications are reduced in people having early booking and regular visits. Most of the teenage group book late and have reduced number of antenatal visits. Due to increased number of primary health centres and health services in India, the high risk patients are identified by health workers & referred to tertiary levels. Most of the previous studies show that the teenage pregnant women had their 1st AN visit very late and none of them had peri-conceptionalcounselling.

M.K. Malviya in his study has stated that only 25% of the teenage pregnant women had their 1st visit during I trimester and 12% during their III trimester and the rest during II trimester[16]. In our study 12% of the women in the study group booked in their I trimester, 13% in the III trimester and the rest during II trimester.

HEIGHT AND WEIGHT OF THE PATIENT

In our study 8.01% of the study group were short statured whereas 4% of women in the control group were short stature. Only 5.5% of the study population were undernourished (<45kg). In study by Anandalakshmi, (1993) 18% of the study population were below 45Kg.[2]Mapanga K.G. (1997) showed that 16% of the study population were below 45 kg.[15]

The improvement in the nutritional status of the teenage was due to better nourishment and better care given to the pregnant women by the family while she is pregnant.

ANEMIA

According to ICMR classification, Haemoglobin level > 11 gm% is considered normal for pregnant women. In our study, only 5.50% women in the study group had Haemoglobin more than 11 gm%

				PRESENT STUDY	**A.K. SHARMA (2001)**
Hb	**ANEMIA**	**STUDY GROUP**	**CONTROL GROUP**	**STUDY GROUP**	**CONTROL GROUP**
≥ 11g%	No anemia	5.50%	10.50%	31.4%	51.4%
10.1 - 10.9 g%	Mild	24%	46.50%	41.4%	40.0%
7.1 – 10 g%	Moderate	65.50%	42.50%	24.3%	08.6%
4.1 - 7 g%	Severe	4.50%	0.50%	2.9%	0
≤ 4g%	Very severe	0.50%	0	0	0

In the present study, the majority of the women (65.5%) in the study group had moderate anemia, the reason being lack of awareness about iron rich foods and not taking iron supplements during AN period. The incidence of anemia in Bhalerao, (1990), Pratindhi et al., (1990), Israel and Wonderz (1963) and Ghose and Ghosh (1963) were 25.5%, 30%, 26% and 24% respectively. The vast difference is because of using different cut off for anemia in different study groups.

PIH

Incidence of PIH in the study group was 9.33% out of which more than 50% had complications of PIH. Whereas in the control group, these who had PIH belonged only to the mild variety mostly. The incidence of PIH in various studies were almost similar.

Bhalerao (1990)[4]	10.0%
Pratinidhi et al. (1990)[19]	11.4%
A.K. Sharma (2001)[1]	7%
Israel and Wonderz[11] (1963)	7.8%
Ghose and Ghosh[9] (1976)	8%
Present Study	9.33%

OTHER COMPLICATIONS

The incidence of CPD in our present study in the teenage group was 7%. Incidence of CPD in BhaleRao (1990) was 1.5% and in Philips and Sivakamasundari (1978) was 2.6%. The increase in incidence of CPD in the present study is probably due to over diagnosis of CPD since among the cases diagnosed as CPD, most of them came under the category of first degree CPD. As in other studies, there was no significant increase in other complications.

FETAL COMPLICATIONS

The most common cause of perinatal mortality in women born to teenage mothers is low birth weight which could be either due to prematurity or small for gestational age babies. 38.50% of babies born to teenage mothers were less than 2.5 kg in the present study.

INCIDENCE OF LOW BIRTH WEIGHT	
Bhalerao (1990)	44.1%
Pratinidhi (1990)	50.4%
Kumar Ashok (2006)	87.2%
Present Study	38.66%

In the present study, other complications like respiratory distress (16.50%) and neonatal jaundice (1.50%) were increased in the study group.

In Kumar Ashok's[13] study, neonatal morbidities like perinatal asphyxia (11.7%), jaundice (5.77%), respiratory distress syndrome (1.9%) were increased.

In the present study 6.97% of babies born expired in the study group whereas 1.98% babies expired in the control group. In Kumar Ashok's study, perinatal mortality was 6.7%, the commonest cause being prematurity.

Globally researchers have gathered substantial evidence in favour of the fact that pregnancy among adolescents is associated with maternal complications and fetal complications. It is also emphasized by Mapanga that the health related disadvantage of adolescents who become pregnant heavily outweigh advantages that there may be.[15] So teenage pregnancies should be discouraged by increasing the age at marriage for girls and providing better educational facilities for them.

SUMMARY

SUMMARY

- The incidence of teenage pregnancy during the study period in KGH was 9.6%.
- 2/3 of pregnant teenagers were 19 yearsold, and almost the rest belonged to the 18 years category. Only 2.31% belonged to the 15 - 17 years category. Among the control group, about half of the population belonged to 20 - 22 years group.
- Women in the study group had a mean age at marriage of about 17.04years whereas women in the study group had a mean age of marriage of about 21.12 years.
- 1.33% of the study group were unmarried whereas all were married in the control group. The unmarried women were illiterate and lacked basic knowledge about pregnancy. Ignorance about safe sex and casual relationship had led to this situation in them.
- 17.5% of the study group were illiterate and 13.2% of the control group were illiterate. About half of the study group have stopped attending school after primary level of education whereas more than half of the control group have attended school till secondary level.
- None of the women in the study group have attended college whereas 3.36% of the control group had college education after school education.
- Most of the women in both the groups were not working and were solely dependent on their husbands for their living. About 3% of the study

group belonged to the working category which made them financially independent.

- Only 1/6th of the study group had awareness about pregnancy and its complications whereas about 1/3rd of the control group had enough knowledge. They acquired the knowledge from books, media and from friends.
- 14% of the women in the study group were unbooked i.e. they didn't have adequate antenatal checkup whereas only 4.37% of the women in the control group didn't have adequate antenatal checkup.
- Almost all patients have had 2 doses of TT in both the study and control group except one patient in the study group who was an unmarried teenager.
- 12% of women in the study group booked in the I trimester whereas 30.9% of women in the control group booked during the I trimester. 13% of the women in the study group had their first visit during III trimester after they had developed complications and 3.4% of women in the control group had their first visit during III trimester.
- Height of most of the women ranged between 146 - 150 cm, the average height in Indian women. 8.01% of women in the study group were short statured i.e. <145 cm and 4% of women in the control group were short stature.
- There was not much difference in the weight between the study and control group.

- Mean Hb in study group was 9.58% which belongs to moderate anemia category and mean Hb in control group was 10.11 g% which belongs to mild anemia category according to ICMR classification of anemia. Severe anemia is more common in the study population than the control population.
- Pregnancy induced HT was prevalent in both the groups because they were primi-gravidae. Incidence of mild PIH was almost same in both the groups. Incidence of severe PIH was 3.66% in the study group and was 1% in the control group. Incidence of eclampsia was 1.66% in the study group and 0.33% in the control group.
- Among other complications, incidence of malpresentation and malposition was not significantly different.
- 1patients in the study group had intrauterine death.
- patients had IUGR in the study group and 1patients had IUGR in the control group.
- There was 1 case of abruptio placenta in the study group.
- 7% of the study group had cephalopelvic disproportion whereas 5.66% of the control group had cephalopelvic disproportion.
- 6% of the study group had prelabour rupture of membranes whereas 5.0% of the control group had the same.
- patients from the study group had prolonged labour and 1 patient had prolonged labour among the control group. One patient from the study group had precipitate labour.

- All complications occurring postpartum such as local sepsis, mastitis and UTI were increased in the study group than in the control group.
- There was not much difference in the mode of delivery between the 2 groups. Labournaturale was 58.50% in the study group and 57% in the control group. Caesarean rate was 35.50% in the study group and 38% in the control group. Instrumental delivery was seen in 4.50% among the study group and the control group.
- About 38.50% of babies born to mothers in the study group were low birth weight (<2.5kg). About 25.50% of babies born to mothers in the control group were low birth weight.
- About 1/3 of babies born to mothers in the study group required NICU admission whereas only 1/5 of babies born to mothers in the control group were admitted in NICU.
- Leading causes of admission in NICU were respiratory distress and LBW / preterm babies. 16.50% of babies born to mothers in the study group had respiratory distress and 7% of babies born to mothers in the control group had respiratory distress.
- 10% of babies born to mothers of study group required admission for low birth weight / prematurity whereas 7.5% of babies born to mothers of control group required admission for the same.
- Incidence of sepsis was same in both the groups.

- 1 baby from the study group had milk aspiration pneumonitis as the mothers had no idea how to feed the babies.
- 6.97% of the babies born to mothers of the study group expired whereas 1.98% of the babies born to mothers of the control group expired. Main reason for perinatal loss in both the groups was prematurity.

CONCLUSION

CONCLUSION

Teenage pregnancy is one of the serious problem today all over the world and more so in developing countries like India. In order to prevent teenage pregnancy, various measures are being taken, throughout the world. Education and creating awareness about the complications of teenage pregnancy is the best approach for this problem.

In United states, a national campaign has been started in February 1996 with the goal of reducing teenage pregnancy rate by one-third over 10 years and in 2006, the goal was again revised to reduce teenage pregnancy rate by another one-third between the years 2006 - 2015 [24] In United states schools, a video **"Too young"**is being telecasted, where teenage parents from a variety ofbackgrounds share their stories andabout the difficulties they have faced. In the same lines, Jason Reitman has directed a film **`Juno'**which shows the pathetic situation of an American teenager facing an unplanned pregnancy and the film has been awarded the best film at Rome film festival in October 2007. In Jharkhanda 16 hour course prepared by UNESCO, named**"Learning for life"**has been made compulsoryfor class 11 and class 12 students which teaches about prevention of HIV, STDs teenage pregnancies. **"Growing Up"**program initiated by FOGSI in partnership with Johnson and Johnson also educates schoolgirls on menstruation and personalhygiene, anatomy, physiology and functioning of the reproductive system, importance of nutrition and exercises, drugs, alcohol and smoking and sexual abuse. Another program **"Let's**

talkandTeenage girl clinic", in various Government hospitals tackles various problems faced by teenage girls and distributes iron tablets to teenage girls to improve adolescent health. **"Family Welfare Clinic"** offers services such as contraceptive measures including emergency contraception and by providing with MTP services if they get pregnant. With these measures we hope to eradicate teenage pregnancy just as we have brought 100% immunisation among antenatal women through various Government programmes.

The present approach is to provide health education about the risks and complications of teenage pregnancy, strict enforcement of laws regarding minimum age for marriage, screen all pregnant mothers for risk factors and provide high risk mothers with education about childbearing and rearing and tertiary referral for safe delivery. A combined multidisciplinary approach involving educationists, health and social workers, obstetrician and gynaecologists is required to improve the adolescent's reproductive health.

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PROFORMA

PROFORMA

A STUDY OF MATERNAL & FETAL OUTCOME OFTEENAGE PREGNANCY

Name: Age:

Husband's Name:

I.P. No.: Serial No. :

Type of the Subject: Study / Control

Address: D.O. Admission:

D.O. Delivery:

D.O. Discharge:

Religion: Education:

Monthly Income: Occupation:

L.M.P. E.D.D.

Admitted for:

MENSTRUAL HISTORY:

Menarche at:Menstrual Cycles:

MARITAL HISTORY:

Age at Marriage :Consanguinity:

FAMILY HISTORY

1. HT 2. DM 3. Heart Disease 4. Asthma

PERSONAL HISTORY:

Diet - Vegetarian / Mixed

Addiction - Alcohol / Smoking / Betel nut / Drugs / Nil

PAST HISTORY:

Any Medical or Surgical illness specify - _____

OTHERS:

Knowledge about Pregnancy / Delivery

Knowledge about high risk factors in pregnancy - Good / Poor

Source of Information:

1. Parents
2. Friends & Relatives
3. Mass Media
4. Health Personnel
5. Others

DETAILS OF PRESENT PREGNANCY

Planned / Unplanned

Booked / Unbooked

I ANC at _____

No. of ANC _____

Immunized or not

Immunized Prophylactic Iron – Yes / No

Weight gain during Pregnancy

Screening for risk factors - Yes / No.

Ultrasound taken - Yes / No.

RISK FACTORS OF PREGNANCY DURING AN PERIOD

1. Short Stature < 145 cm
2. Malnourishment
3. Malpresentation
4. Bad Obstetric History
5. Anemia
6. PIH & Eclampsia

7. G D M

8. Heart Disease

9. I U G R

10. Rh Incompatibility

11. Previous LSCS

12. Twins

13. Placenta Previa

14. Abruptio Placenta

15. Preterm / Low Birth weight

16. Oligohydramnios

17. Polyhydramnios

Any hospital admission during antenatal period Yes/No.

EXAMINATION :

Height: Weight:

Urine: Albumin / Sugar Hb %:

Anemia: Jaundice: Pedal edema:

Temperature: Pulse: BP: RR :

Breast: Thyroid:

CVS: RS: Spine: Gait:

P/A:

P/V:

LABOUR:

Onset of Labour: Spontaneous / Induced

Period of Gestation: Preterm / term /Post term

Gestational Age in weeks:

INTERVENTION DURING LABOUR:

1. Oxytocin	2.ARM	3.Misoprostol
4. Dinoprostone	5.Epidosin	6.Others

MODE OF DELIVERY:

Duration of I Stage

Duration of II Stage

Duration of III Stage

Total Duration:

Colour of Liquor:

Delivery of Placenta:

If LSCS done, indication - Elective / Emergency

COMPLICATION DURING LABOUR:

1. Prolonged Labour

2. Obstructed Labour

3. CPD

4. Cord Prolapse

5. Eclampsia

6. Inversion of Uterus

7. Rupture Uterus

8. Post-Partum Haemorrhage

9. Retained Placenta

10. Perineal Injuries

11. Shock / Cardiac Failure

PUERPERIAL COMPLICATIONS:

1. Local Sepsis

2. Pyrexia

3. Urinary Tract Infection

4. DVT

5. Pulmonary Embolism

6. Subinvolution

7. Breast engorgement / mastitis / cracked nipple

8. Psychosis

PERINATAL AND NEONATAL OUT COME:

Date of Birth :

Sex of the Baby :

Still Birth / Live Birth

APGAR _____ 1’ 5’

Birth Weight _____

Maturity - Preterm / Term / Post Term

Intrauterine growth : SGA / LGA / AGA

Length HC CC

COMPLICATIONS:

1. Congenital Defects
2. Low birth weight
3. Birth Asphyxia
4. Respiratory Distress
5. Neonatal Jaundice
6. Hypothermia

7. Hypoglycemia

8. Hypocalcemia

9. Neonatal Infections

10. Neonatal Convulsions Whether admitted to NICU : Yes / No. of days in NICU :

Whether baby discharged / expired.

ABBREVIATIONS

ABBREVIATIONS

APH	-	antepartum haemorrhage
CPD	-	Cephalopelvic disproportion
GDM	-	Gestational diabetes mellitus
HIV	-	Human immunodeficiency Virus
ICMR	-	Indian Council for Medical Research
IUD	-	Intrauterine death
IUGR	-	Intrauterine growth restriction
LGA	-	Large for gestational age
LMC	-	Low midcavity
LSCS	-	Lower segment caesarean section
MTP	-	Medical Termination of pregnancy
NICU	-	Neonatal intensive care unit
PIH	-	Pregnancy induced hypertension
PROM	-	Prelabour rupture of membranes
STD	-	Sexually transmitted diseases
TT	-	Tetanus toxoid
UTI	-	Urinary tract infections

CONSENT FORM

STUDY TITLE : STUDY ON THE ROLE OF SOCIO-DEMOGRAPHIC FACTORS AFFECTING TEENAGE PREGNANCY AND ITS FETO-MATERNAL OUTCOMES.

STUDY CENTRE : Institute of Social Obstetrics,

Govt. Kasturba Gandhi Hospital,

Chennai-5.

PARTICIPANT NAME : **AGE:** **SEX**: **J.D.NO.**

I confirm that I have understood the purpose of procedure for the above study, I have the opportunity to ask the question and all my questions and doubts have been answered to my satisfaction.

I have been explained about the possible complications that may occur during the procedure, I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving any reason.

I understand that investigator, regulatory authorities and the ethics committee will not need my permission to look at my health records both in respect to the current study and any further research that may be conducted in relation to it, even if I withdraw from the study. I understand that my identity will not be revealed in any information released to third parties of published,

unless as required under the law. I agree not to restrict the use of any or results that arise from the study.

I hereby consent to participate in this study of**STUDY ON THE ROLE OF SOCIO DEMOGRAPHIC FACTORS AFFECTING TEENAGE PREGNANCY AND ITS FETO-MATERNAL OUTCOMES**

Signature of Investigator: Place :

Date :

Study Investigators Name Institution

Signature / Thumb Impression of patient

MASTER CHART

S.NO.	NAME	IP NO.	AGE	A.M	M.S	EDU	OCC	KNOW	BOO	IMM	1ANC	Ht	Wt	Hb	M.D	B.WT	NICU	B.D
1	Soniya	487	19	18	M	3	N	G	B	I	1	1	2	3	LN	1	N	D
2	Kalaiselvi	503	18	17	M	4	N	P	B	I	2	2	3	2	LN	2	Y	D
3	Ayesha begum	465	18	17	M	2	N	P	B	I	2	4	5	3	LSCS	2	Y	D
4	Kanimozhi	586	19	18	M	3	N	P	B	I	3	3	4	1	LSCS	3	N	D
5	Sudha	626	19	18	M	3	N	G	B	I	2	2	4	3	LN	1	N	D
6	Pooja	572	18	18	M	4	N	G	U	I	2	2	2	2	LN	3	N	D
7	Malarkodi	692	18	18	M	3	Y	P	B	I	1	2	1	3	LN	2	N	E
8	Shabeena	743	19	18	M	2	N	G	B	I	2	2	3	3	LN	1	Y	D
9	Chitra	712	19	18	M	3	N	P	U	I	2	2	4	2	LSCS	2	N	D
10	Lavanya	812	19	19	M	3	N	G	B	I	2	3	2	3	LN	1	Y	D
11	Nasreenbanu	794	15	15	M	4	N	P	U	NI	3	2	4	5	LSCS	4	N	D
12	Asinabegum	915	19	18	M	3	N	P	U	I	1	2	3	3	LN	2	N	D
13	Alamelu	996	19	18	UM	2	N	P	B	I	2	3	4	2	LN	1	N	D
14	Jothilakshmi	954	19	18	M	3	N	G	B	I	2	2	2	3	LN	3	Y	D
15	Mohanasundari	1098	19	18	M	3	N	P	B	I	2	4	4	3	LSCS	2	Y	D
16	Indira	989	19	19	M	4	N	G	B	I	1	2	5	3	LSCS	1	N	D
17	Parameshwari	1024	19	19	M	3	N	P	B	I	2	1	3	1	LN	2	N	D
18	Sridevi	1153	18	18	M	2	N	G	U	I	3	2	4	3	LN	3	Y	D
19	Amulu	1189	18	17	M	1	N	P	B	I	2	3	2	2	LN	2	N	D
20	Prema	1214	19	18	M	3	N	P	B	I	2	2	4	3	LSCS	2	Y	D
21	Ansarbee	1325	19	18	M	4	N	P	B	I	2	3	3	3	LSCS	3	N	E
22	Geetha	1298	19	19	M	3	N	P	B	I	3	2	4	2	LN	1	N	D
23	Hemavathy	1342	18	17	M	2	N	P	B	I	2	4	1	3	LN	2	Y	D
24	Shanthi	1432	19	19	M	3	N	P	U	I	2	2	2	2	LN	2	N	D
25	Rani	1433	19	17	M	3	N	P	B	I	2	3	4	3	LSCS	3	N	D
26	Chandra	1545	19	18	M	4	N	P	B	I	2	2	3	3	LSCS	1	Y	D
27	Vijaya	1624	19	18	M	3	N	P	B	I	2	2	4	3	LN	1	N	D
28	Latha	1598	18	17	M	3	N	G	B	I	3	2	2	3	LN	2	Y	D
29	Dhanam	1712	19	18	M	3	N	P	U	I	2	4	4	2	LN	2	N	E
30	Poongodi	1798	19	17	M	2	N	P	B	I	2	2	3	4	LSCS	3	Y	D
31	Saroja	1806	18	18	M	4	Y	P	B	I	1	3	4	1	LN	1	N	D
32	Kamatchi	1897	19	18	M	3	N	P	B	I	2	2	4	3	LSCS	1	Y	D
33	Mahalakshmi	1906	19	18	M	3	N	P	B	I	2	2	2	2	LN	1	N	D
34	Valarmathy	1853	19	18	M	3	N	G	B	I	3	2	5	3	LN	3	N	D
35	Geetha	1998	19	18	M	3	N	P	U	I	2	2	1	3	LN	2	Y	E
36	Devi	10012	19	18	M	2	N	P	B	I	2	1	4	3	LSCS	1	Y	D
37	priya	11142	19	18	UM	4	N	P	B	I	2	2	3	2	LN	2	N	D
38	Rathidevi	11280	18	17	M	3	N	P	B	I	1	3	2	4	LSCS	1	N	D
39	Usha	12168	18	17	M	3	N	P	B	I	2	4	5	3	LN	3	N	D
40	Lakshmi	13121	19	17	M	3	N	G	B	I	2	2	4	3	LN	1	Y	D
41	Divya	12986	19	17	M	3	N	P	B	I	2	2	1	3	LN	2	N	D
42	Naziya	13987	19	18	M	4	N	P	U	I	3	2	3	1	LSCS	2	N	D
43	Adhilakshmi	14112	19	18	M	2	N	P	B	I	2	2	2	3	LSCS	1	N	D
44	Deepa	13876	19	18	M	3	N	G	B	I	1	4	5	2	LN	1	Y	E
45	Sharmila	14001	19	18	M	3	N	P	B	I	2	2	4	3	LN	3	N	D
46	Hemavathy	14427	18	17	M	3	N	P	B	I	2	1	4	3	LN	2	Y	D
47	Bhavani	14578	19	18	M	4	N	P	U	I	2	2	3	4	LSCS	1	N	D
48	Rekha	14798	18	17	M	2	Y	G	B	I	2	3	2	3	LN	2	Y	D
49	Thilagavathy	14881	19	18	M	3	N	P	B	I	2	2	1	3	LSCS	3	N	D
50	Ambika	14886	19	18	M	3	N	P	B	I	1	3	4	2	LN	2	N	D
51	Vanmathi	15142	19	18	M	3	N	P	B	I	2	4	4	3	LN	2	N	E

52	Bhuvaneshwari	15363	19	17	M	4	N	P	B	I	3	2	3	3	LSCS	1	N	D
53	Kavitha	15498	19	17	M	2	N	P	U	I	2	2	2	1	LSCS	1	Y	D
54	Clara	15674	19	18	M	3	N	P	B	I	2	2	4	3	LN	3	N	D
55	Mohana	15436	19	18	M	3	N	P	B	I	1	3	4	2	LN	2	N	D
56	Tamilselvi	15896	19	18	M	3	N	P	B	I	2	4	1	3	LN	2	N	D
57	Nancy	15975	18	17	M	4	N	P	B	I	2	2	3	3	LSCS	1	N	D
58	Praveena	15998	19	18	M	3	N	P	B	I	2	1	2	3	LN	2	Y	D
59	SRIPRIYA	16011	18	17	M	3	N	P	B	I	2	2	4	3	LSCS	3	N	D
60	MANIMEGALAI	16211	18	17	M	2	N	P	U	I	1	2	3	2	LN	2	N	D
61	NALINI	16134	19	18	M	3	N	P	B	I	2	4	4	2	LN	1	N	E
62	SANGEETHA	16257	19	18	M	4	N	P	B	I	2	3	4	1	LSCS	2	N	D
63	SOWMYA	16298	19	18	M	3	N	P	B	I	2	2	4	3	LN	1	Y	D
64	RADHA	16387	16	16	M	3	N	G	B	I	3	2	4	3	LN	3	N	D
65	RAJALAKSHMI	16402	19	18	UM	2	N	P	B	I	2	2	3	3	LSCS	1	N	D
66	DATCHAYANI	16437	18	17	M	4	N	P	B	I	2	2	2	2	LN	4	N	D
67	PRABAJA	16541	19	18	M	3	N	P	U	I	2	4	4	3	LSCS	2	Y	D
68	VIMALA	16649	19	18	M	3	N	P	B	I	2	2	4	3	LN	1	N	D
69	SHANTHI	16743	19	18	M	2	N	G	B	I	1	3	4	3	LN	2	N	E
70	VINNARASI	16842	19	18	M	3	N	P	B	I	2	2	3	3	LSCS	3	N	D
71	PREMA	16989	18	17	M	4	N	P	B	I	2	2	2	3	LN	1	N	D
72	ANUSUYA	16949	19	18	M	1	N	P	B	I	3	4	4	2	LSCS	1	Y	D
73	JAYANTHI	16413	18	17	M	2	N	P	B	I	2	3	1	3	LN	2	N	D
74	SATHYA	16807	18	17	M	3	N	P	U	I	2	2	3	1	LN	1	N	D
75	SHOBA	17017	17	17	M	3	N	G	B	I	2	2	4	3	LSCS	2	Y	D
76	RAMAPRIYA	17104	19	18	M	4	N	P	B	I	2	3	5	3	LSCS	2	Y	D
77	Valarmathy	16252	19	18	M	3	N	P	B	I	1	2	2	2	LN	3	N	E
78	YASMIN	16986	19	18	M	2	N	P	B	I	2	2	4	3	LN	1	N	D
79	DHARANI	16225	18	18	M	2	Y	P	B	I	2	1	3	4	LSCS	2	N	D
80	NEELA	15139	19	18	M	3	N	G	B	I	3	2	4	3	LN	1	Y	D
81	Kanimozhi	15245	18	18	M	3	N	P	U	I	2	4	4	3	LSCS	2	Y	D
82	ANANDHI	16900	19	19	M	4	N	P	B	I	2	2	4	3	LN	1	N	D
83	ROSY	16638	19	19	M	2	N	P	B	I	2	2	2	1	LN	2	N	D
84	SWEETY	16298	18	17	M	3	N	P	B	I	1	3	3	2	LSCS	3	Y	E
85	PAVTYRA	16360	17	17	M	3	N	G	B	I	2	4	4	3	LN	2	Y	D
86	CHITRA	16956	19	18	M	3	N	P	B	I	2	1	4	3	LN	1	N	D
87	VENNILA	16847	19	18	M	4	N	P	U	I	3	2	4	3	LSCS	2	N	D
88	SUJA	16539	19	19	M	2	N	P	B	I	2	3	1	3	LSCS	2	Y	D
89	EVANGELINE	16815	18	18	M	3	N	P	B	I	2	2	2	3	LN	2	Y	D
90	KAYAL	16120	19	18	M	3	N	G	B	I	2	4	4	4	LN	3	N	D
91	DURGA	16735	18	17	M	4	N	P	U	I	2	3	3	2	LN	1	N	D
92	DIVYA	17454	19	17	M	3	N	P	B	I	2	2	4	3	LSCS	1	Y	E
93	ANUJA	17409	19	19	M	2	N	P	B	I	2	1	3	3	LN	2	N	D
94	AARTHI	17289	19	18	M	3	N	P	B	I	2	2	4	3	LSCS	1	Y	D
95	NARMADHA	17345	19	18	M	3	N	G	B	I	2	2	2	3	LN	1	N	D
96	RUPA	18126	18	18	M	4	N	P	U	I	1	4	3	2	LSCS	3	Y	D
97	YALINI	18049	19	17	M	3	N	P	B	I	2	2	4	3	LN	2	N	D
98	VIKY	18050	19	18	M	2	N	P	B	I	2	2	3	2	LN	1	N	E
99	INDIRANI	18006	19	18	M	3	N	P	B	I	3	3	4	3	LN	2	N	D
100	SARALA	18041	19	18	M	3	N	P	B	I	2	2	4	3	LSCS	2	Y	D
101	SHYAMALA	18221	19	18	M	4	Y	G	U	I	2	2	1	2	LSCS	1	N	D
102	SUGUNA	17515	18	17	M	2	N	P	B	I	1	4	2	3	LN	2	Y	D
103	SINDHU	17567	19	19	M	2	N	P	B	I	2	1	4	3	LN	3	N	D

104	MANIMEGALAI	18156	19	18	M	3	N	P	B	I	2	3	5	4	LN	2	Y	D
105	BAGYA	17819	18	18	M	3	N	G	U	I	2	2	3	3	LN	1	N	E
15-Apr	JAYANTHI	17788	18	17	M	3	N	P	B	I	2	2	4	2	LN	1	N	D
107	LAKSHMI	17640	18	17	M	2	N	P	B	I	2	2	3	3	LSCS	1	Y	D
108	FATHIMA	17932	19	18	M	4	N	P	B	I	3	3	4	3	LSCS	4	Y	D
109	SHAHIN	17570	19	18	M	3	N	P	B	I	2	3	3	3	LN	1	N	D
110	UMA	17916	18	17	M	3	N	P	U	I	1	4	4	3	LN	3	N	D
111	SAROJA	17664	18	17	M	2	N	P	B	I	2	2	3	2	LN	2	Y	D
112	PRAMILA	17893	19	18	M	3	N	G	B	I	2	1	4	3	LSCS	1	N	E
113	NISHA	18086	18	17	M	4	N	P	B	I	2	3	2	3	LN	1	Y	D
114	THAHIRA	17677	19	18	M	3	N	P	B	I	1	2	4	3	LN	2	N	D
115	PARVEEN	17622	18	17	M	2	N	P	B	I	2	2	1	3	LSCS	3	N	D
116	MAHESHWARI	17821	19	18	M	3	N	P	U	I	2	3	3	1	LN	1	Y	D
117	RANI	17897	19	18	M	3	N	G	B	I	2	2	3	2	LSCS	1	N	D
118	KALA	18435	18	18	M	4	N	P	B	I	2	4	2	3	LN	2	Y	D
119	ANITHA	18468	19	18	M	2	N	P	B	I	2	2	4	3	LN	1	N	E
120	MEENA	18534	18	18	M	3	N	P	B	I	1	2	3	4	LN	2	N	D
121	VIDHYA	18667	19	18	M	3	N	P	U	I	2	2	4	3	LSCS	3	Y	D
122	VIMALA	18781	19	19	M	4	N	G	B	I	2	3	3	2	LSCS	1	Y	D
123	SUNDARI	18942	19	19	M	2	N	P	B	I	3	2	4	3	LN	1	N	D
124	SARITHA	18944	19	18	M	3	N	P	B	I	2	4	2	3	LN	2	N	D
125	GOMATHI	19012	18	18	M	3	N	P	B	I	2	2	3	2	LN	3	Y	D
126	GOKILA	19316	19	17	M	4	N	P	U	I	1	1	4	2	LSCS	1	Y	E
127	SARASWATHI	19524	18	18	M	2	N	G	B	I	2	3	5	3	LN	1	N	D
128	MARUYA	19432	19	18	M	2	N	P	B	I	2	3	4	3	LN	2	N	D
129	JOTHI	19759	19	18	M	3	N	P	B	I	2	2	3	3	LSCS	1	Y	D
130	MALAR	19846	18	17	M	3	N	P	B	I	2	4	1	2	LN	3	N	D
131	ILAKIYA	19904	19	18	M	4	N	P	U	I	2	2	2	3	LSCS	1	Y	D
132	INDHUJA	19867	19	18	M	3	N	G	B	I	1	2	3	3	LN	2	N	D
133	POONGODI	19996	19	18	M	2	N	P	B	I	2	2	4	3	LN	3	Y	D
134	KOWSALYA	19989	18	17	M	3	N	P	B	I	3	2	3	2	LN	1	Y	D
135	MONA	20146	18	18	M	3	N	P	B	I	2	2	4	3	LSCS	2	N	E
136	MALAVIKA	20257	18	17	M	4	N	P	U	I	2	3	3	3	LN	1	Y	D
137	SIVASHANKARI	20376	19	18	M	2	N	G	B	I	2	4	2	3	LSCS	3	N	D
138	KALPANA	20421	19	18	M	3	N	P	B	I	1	1	5	2	LN	1	Y	D
139	SUGANYA	20493	19	18	M	3	N	P	B	I	2	2	4	3	LN	2	N	D
140	RAMAMANOHARI	20589	19	18	M	3	N	P	B	I	2	2	3	3	LSCS	3	Y	D
141	SUBATHRA	20623	19	18	M	3	N	P	B	I	2	2	4	1	LN	1	Y	D
142	SUJI	20686	19	18	M	2	N	G	U	I	2	3	2	3	LN	1	N	D
143	THULASI	20745	18	17	M	4	N	P	B	I	2	4	3	2	LSCS	2	N	D
144	KAVITHA	20712	19	18	M	3	N	P	B	I	2	2	5	3	LSCS	1	Y	D
145	SHYLAJA	21103	19	18	M	3	N	P	B	I	1	2	3	3	LN	3	N	D
146	SUMATHY	20985	18	17	M	2	N	G	B	I	3	2	4	3	LN	1	N	D
147	REVATHY	20986	19	18	M	3	N	P	B	I	2	3	4	2	LN	2	N	D
148	RAGAVI	21198	19	18	M	4	N	P	U	I	2	2	3	4	LSCS	1	N	D
149	PRASANNA	21132	18	17	M	2	N	P	B	I	1	1	3	3	LN	2	Y	D
150	AMUDHA	21298	19	18	M	3	N	P	B	I	2	4	2	3	LSCS	3	N	D
151	NITHYA	21340	19	17	M	3	N	P	B	I	2	2	5	2	LN	1	N	D
152	CHINTHNIDHI	21357	19	18	M	3	N	P	B	I	3	3	4	3	LN	1	N	E
153	CHRISTINA	22345	19	18	M	2	N	P	B	I	2	2	4	3	LN	2	N	D
154	GRACIA	22040	19	18	M	4	N	G	B	I	1	3	3	3	LN	2	Y	D
155	JENAGAI	22578	19	18	M	3	N	P	B	I	2	2	2	2	LSCS	3	N	D

156	JENIFER	22679	19	18	M	2	N	P	U	I	2	4	4	3	LSCS	1	N	D
157	KARUNYA	22703	18	17	M	3	N	P	B	I	2	2	4	1	LN	2	N	D
158	SARANYA	22789	18	18	M	2	N	G	B	I	3	1	3	3	LN	1	Y	D
159	SHOBANA	22876	19	19	M	4	N	P	B	I	2	2	5	2	LN	3	N	D
160	VASEELA	22916	19	19	M	2	N	P	B	I	2	3	3	3	LSCS	1	N	D
161	MANJU	23101	19	18	M	3	N	P	B	I	2	3	4	3	LN	2	N	D
162	NAVEENA	23119	19	18	M	3	N	P	B	I	2	2	2	3	LN	3	Y	D
163	APARNA	23198	19	18	M	4	N	P	B	I	3	4	3	2	LN	2	N	D
164	JAISHREE	23208	19	19	M	2	N	G	B	I	2	2	4	3	LSCS	1	N	D
165	VANATHY	23256	18	18	M	3	N	P	B	I	2	2	3	2	LN	2	N	D
166	INDHUMATHI	23267	19	18	M	2	N	P	B	I	2	2	4	3	LN	3	Y	D
167	SUJATHA	23256	18	17	M	2	N	P	B	I	2	2	5	3	LSCS	1	N	E
168	KALAIVANI	23310	19	19	M	4	N	P	B	I	2	3	2	2	LN	2	N	D
169	KOMAL	23356	19	18	M	3	N	G	B	I	2	4	4	3	LSCS	1	N	D
170	MEGALA	23369	18	17	M	3	N	P	B	I	3	2	3	4	LN	3	N	D
171	MOOGAMBIGA	23399	19	18	M	2	N	P	B	I	2	2	4	3	LSCS	1	Y	D
172	RACHEL	24012	18	17	M	2	N	P	B	I	2	2	3	3	LN	2	N	D
173	RAMYA	24156	18	17	M	2	N	P	B	I	2	2	4	2	LSCS	2	N	D
174	REVATHY	24200	19	18	M	3	N	P	B	I	2	3	2	2	LN	2	N	D
175	SUBASHINI	24278	18	17	M	2	N	P	B	I	2	1	5	3	LN	1	N	D
176	VIMALA	24478	18	17	M	3	N	P	B	I	2	4	4	3	LN	2	Y	D
177	SWATHI	24494	18	17	M	2	N	P	B	I	2	2	3	2	LSCS	2	N	D
178	SUREKA	24510	18	17	M	2	N	P	B	I	3	3	4	3	LN	1	N	D
179	LEENA	24546	19	18	M	2	N	P	B	I	2	2	4	3	LN	2	N	D
180	MALAVIKA	24560	19	18	M	3	N	P	B	I	2	2	2	3	LN	2	Y	E
181	ARCHANA	24572	19	18	M	3	N	P	B	I	2	2	4	2	LSCS	1	N	D
182	ASHA	24593	18	17	M	3	N	P	B	I	2	4	3	3	LN	2	Y	D
183	SHARADHA	24613	19	18	M	2	N	P	B	I	2	2	4	3	LN	2	N	D
184	POORNA	24647	19	18	M	3	N	P	B	I	3	2	4	3	LSCS	2	N	D
185	MAHALAKSHMI	24658	19	18	M	3	N	G	B	I	2	2	2	2	LN	1	N	D
186	SINDHU	24671	19	18	M	3	N	P	B	I	2	3	4	3	LN	2	Y	D
187	VIJAYA	24685	18	17	M	2	N	P	B	I	2	4	3	3	LN	2	N	D
188	MARY	24692	19	18	M	3	N	P	B	I	2	2	5	3	LSCS	1	N	D
189	THASLEEM	24712	18	17	M	3	N	P	B	I	2	1	4	3	LN	2	N	D
190	NISHA	24734	18	17	M	3	N	P	B	I	3	2	2	2	LN	2	Y	D
191	PRIYA	24745	19	18	M	2	N	P	B	I	2	2	3	3	LN	1	N	D
192	UMARANI	24778	19	18	M	3	N	P	B	I	2	3	4	3	LSCS	2	N	D
193	CHITRADEVI	24790	19	18	M	3	N	P	B	I	2	2	4	3	LN	2	Y	D
194	VASUMATHY	24800	19	18	M	3	N	P	B	I	2	2	4	2	LN	1	N	D
195	VENDA	24813	19	18	M	2	N	P	B	I	2	2	2	3	LN	2	N	D
196	RESHMI	24825	18	17	M	3	N	P	B	I	2	4	4	3	LSCS	2	Y	D
197	NIRANJANA	24853	19	18	M	3	N	P	B	I	2	2	3	2	LN	2	N	D
198	VEDHA	24856	19	18	M	2	N	P	B	I	3	3	2	3	LN	1	N	D
199	KANCHANA	24860	19	19	M	3	N	P	B	I	2	2	4	3	LN	2	Y	D
200	SABITHA	24884	18	17	UM	3	N	P	B	I	3	2	2	3	LSCS	1	N	D

KEY TO MASTER CHART

A.M	-	Age at Marriage
M.S	-	Marital Status
M	-	Married
UM	-	Unmarried
EDU	-	Education
		1- 11^{th} -12^{th}std
		2- 6^{th}-10^{th} std
		3- 1-5std
		4- Illiterate
OCC	-	Occupation
		Y- Yes
		N- No
Know	-	Knowledge about pregnancy
		G- Good
		P- Poor
Boo	-	Booked
		B- Booked
		UB- Unbooked
Imm		I- Immunised
		NI – Non immunised
1ANC		1-First trimester
		2-Second trimester
		3-Third trimester

Ht - Height

1-≤145cm

2 146-150cm

3-151-155cm

4-156cm and above

Weight - Weight

1-≤45kg

2-46-50kg

3-51-55kg

4-56-60kg

5->60kg

Hb - Haemoglobin in g%

1- ≥11g%
2- 10.1-10.9g%
3- 7.1-10g%
4- 4.1-7g%
5- ≤4g%

M.D - Mode of Delivery

LN-Labour natural

LSCS- Lower Segment Cesarean Section

B.Wt - Birth Weight in Kg

1-≤2.5kg

2- 2.6-3kg

3- 3.1-3.5kg

4-.>3.5kg

NICU - No of days in NICU

Y-Yes

N- No

B.D - Bady discharged

D - Discharged

E - Expired